THE IMPACT OF FOOD PACKAGING CUES ON PERCEIVED PRODUCT QUALITY IN CONSUMER MARKET OF PAKISTAN

By

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ABSTRACT

Examining the quality perceptions of the consumers have often been recommended as an international research paradigm. This study is grounded in Pakistani consumer market to evaluate the impact of food packaging cues on perceived product quality. The moderating effect of consumer knowledge was also taken into consideration in the study. Signalling theory was used in the study for its established predictive power in consumer behaviour, marketing and various fields of research. Based on the essence of signalling theory, this study hypothesized that food packaging cues cast a positive impact on perceived product quality and consumer knowledge moderates these relationships. By using the sample of 504 consumers, data were gathered using mall intercept method following multi stages sampling technique. The responses were analyzed using Statistical Package for Social Sciences (SPSS) and Smart Partial Least Square (PLS). The SPSS was used for descriptive analysis whereas Smart PLS was used for inferential analysis. The findings of the study unveil that the extrinsic cues brand name, price, nutritional label, precautionary label and Halal logo were positively and significantly related to perceived product quality. However, country of origin casted no impact on perceived product quality. Consumer's knowledge reflected a moderate effect on the relationships of brand name and country of origin with perceived product quality whereas it exerted no moderation impact on the relationships of price, nutritional label, precautionary label and Halal logo with perceived product quality. As the results exhibit that Pakistani consumers rely on food packaging cues for perceiving about the product hence it is recommended to the marketers and policy makers to develop appropriate marketing strategies focused on the significance of food packaging cues.

Keywords: Perceived Product Quality, Food Packaging Cues, Consumer's Knowledge, Signalling Theory.

ABSTRAK

Kajian tentang persepsi kualiti pengguna sering disyorkan sebagai paradigma penyelidikan antarabangsa. Kajian ini dilaksanakan berdasarkan pasaran pengguna di Pakistan untuk menilai impak penunjuk pembungkusan makanan terhadap kualiti produk yang dilihat. Kesan penyederhanaan terhadap pengetahuan pengguna juga dititikberatkan dalam kajian ini. Teori *Signaling* digunakan dalam kajian kerana keupayaannya dalam meramal tingkah laku pengguna, pemasaran dan pelbagai bidang penyelidikan. Berdasarkan asas teori *signaling*, kajian ini beranggapan bahawa penunjuk pembungkusan makanan memberikan impak positif terhadap kualiti produk dan pengetahuan pengguna mengantarakan hubungan ini. Berdasarkan sampel 504 orang pengguna, data telah dikumpulkan dengan menggunakan kaedah *mall intercept* mengikut teknik persampelan multitahap . Maklum balas pengguna dianalisis dengan menggunakan perisian Pakej Statistik untuk Sains Sosial (SPSS) dan Smart Partial Least Square (PLS). Perisian SPSS digunakan untuk analisis deskriptif, manakala PLS pula digunakan untuk analisis inferens. Penemuan kajian ini menunjukkan bahawa penunjuk jenama ekstrinsik, harga, label pemakanan, label pencegahan dan logo "Halal" adalah positif dan signifikan terhadap kualiti produk yang dilihat. Walau bagaimanapun, negara asal tidak mempengaruhi kualiti produk yang dilihat. Pengetahuan pengguna menunjukkan kesan penyederhanaan terhadap hubungan jenama dan negara asal dengan kualiti produk yang dilihat, sedangkan ia tidak memberikan kesan terhadap hubungan antara harga, label pemakanan, label pencegahan dan logo "Halal" dengan kualiti produk yang dilihat. Hasil kajian menunjukkan bahawa pengguna di Pakistan bergantung kepada penunjuk pembungkusan makanan untuk melihat produk tersebut. Oleh itu adalah disyorkan kepada pemasar dan penggubal dasar untuk membangunkan strategi pemasaran yang sesuai dan berfokuskan kepada kepentingan penunjuk pembungkusan makanan.

Kata kunci: Kualiti produk yang dilihat, penunjuk pembungkusan makanan, pengetahuan pengguna, Teori *Signaling*.

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List of Abbreviations

BN	Brand Name
PR	Price
COO	Country of origin
NL	Nutritional Label
PL	Precautionary Label
HL	Halal logo
PPQ	Perceived Product Quality
CK	Consumer Knowledge
PLS	Partial Least Square
SEM	Structural Equation Modeling
SPSS	Statistical Package of Social Sciences
CSD	Cantonment Store Department
GVP Hypermart	Green Valley Premium Hyper Mart
BC	Beverly Center
ISB	Islamabad
RWP	Rawalpindi
CBSEM	Covariance Based Structural Equation Modeling
VBSEM	Variance Based Structural Equation Modeling
PCA	Principle Component Analysis
CFA	Confirmatory Factor Analysis
AVE	Average Variance Extracted
GOF	Goodness Of Fit
UUM	Universiti Utara Malaysia
KMO	Kaiser-Mayer-Olkin

CHAPTER 1

INTRODUCTION

1.1 Background of Study

The modern day concept of consumer behavior revolves around the end user considering him as the ultimate authority (Pearce, 2016). This viewpoint of thinking makes it important for the enterprises to get a deeper comprehension of the consumer perceptions for product differentiation as well as to gain competitive edge (Ravikanth & Rao, 2016). Consumer behavior is complex and the choices that are made majorly depend on the attributes of the product. The product attributes provide an opportunity to the firms to develop their products as per the needs and develop product differentiation (Charlebois *et al.*, 2016).

The quality perception in relation to the packaged food has been given considerable interest in the recent arena of consumer behavior (Ravikanth & Rao, 2016). Previously, the concept of perceived product quality has been shown to impact the value perception, product/ brand loyalty and satisfaction (Hansen, 2001). Since the perceptions of the consumers has an immense importance for food producers, marketers as well as retailers. It has become inevitable for the companies to gain an insight for perceptions of the consumers regarding the product in order to provide them with the quality which is expected by them as well as to retain its competitive position in the market (Charlebois *et al.*, 2016). According to Jover *et al.* (2004) as the process of perception is a complex process. The perceptions which are formed by the consumers is in the form of associations which are being formed by the consumers according to the stimuli which are received in a shopping situation.

The perceptions of consumers worldwide regarding the product quality is becoming an interesting topic (Tobler *et al.*, 2011). The European consumer is more knowledgeable about the product packaging attributes and labelling (Van doorn & Verhoef, 2011). The packaging and information plays a lead role in the product evaluation and the quality perceptions in the behavioral cycle of western consumer (Lwin, 2015). The quality perceived out of food packaging cues is a topic of fervent discussion in Asian context (Karaduman, 2016). The packaging of the food and its attributes are not given much importance in developing countries as compared to the European market (Gelici *et al.*, 2012). The research on food packaging cues and their impact on the product quality perception are relatively new in Pakistan (Zaidi & Muhammad, 2012). In the field of marketing, consumer behavior has been given central importance as all the efforts are directed towards the consumer (Horner & Swarbrooke, 2016). Investigating the cognitive processes of consumers is the determinant of the successful product formation which can be in compliance with the consumer perceptions (Horner & Swarbrooke, 2016). The product in compliance with the quality perceived by the consumer is essential for the success of the product or service (Horner & Swarbrooke, 2016).

In the recent past, the Pakistani consumer was not as much aware and conscious about the quality of food which is evident in the recent days (Asif *et al.*, 2018). The modern days show evidently that consumers now a days are much more concerned about the quality of the product they are consuming. Ever since the world has turned into a global village, the consumers of Pakistan have learned about quality food consumption. The information regarding every informative cue being presented on the food package is available, and perceptions about the product quality are being formed on the basis of those. Pakistani consumer market is now full of packaged food items with variety of extrinsic cues. The consumer assess the quality of the product on the basis of these cues (Ali *et al.*, 2017).

Further talking about Pakistani market and consumers, the wave of modernization and urbanization has hit the Pakistan (Menhas *et al.*, 2015). Parallel to the practitioners who are focusing better perceptions regarding the quality of the packaged food product, the grocery outlets are also reaping huge benefits out of this trend. The practitioners and marketers are making huge attempts in order to target the middle and lower middle income group for targeting their products. The increased connectivity with web and media has impacted on the perceived food product quality and volumes of the sales as packaged food items are considered to be higher in quality (Saleem *et al.*, 2017).

On case of packaged foods, consumers are more cognizant due to frequent consumption as food has a direct impact on the health of the person. The food manufacturing companies which introduce packaged food items embed the favorable cues in the packaging (Magnier *et al.*, 2016). The processed packaged foods in Pakistan are becoming popular due to the increasing income and modernization of living (Ayyaz *et al.*, 2011). The increasing drift of urbanization in Pakistan is giving a boost to the packaged food industry. The urban consumers are more inclined towards the use of packaged food items. The grocery retailers of Pakistan are actively promoting the packaged food items of both international as well as local brands (Euromonitor International, 2015). The packaged food quality is under debate in food industry, public as well as among researches (Moslehpour & Huyen, 2014). The food quality has become a topic of interest because of the following reasons. Firstly, the scarcity of the food has engaged the attention of the researchers to probe into the quality issues (Ergin *et al.*, 2014). Secondly, the general public has become more concerned about the quality of the food (Ergin &Akbay, 2014).

As an outcome of the consumer interest, debates are being carried out on nutrients, labels, and other quality indicating cues. Thirdly, the consumers in the developing countries have become more demanding and critical about the quality of the food. The quality differentiation has become a vital character to satisfy the consumer. Competing on the factor of price and homogeneity of the product alone is no more enough as the consumer seeks for quality products with heterogonous variety hence the positive packaging cues are being utilized the marketers to make consumer perceive that a particular product has a better quality (Akdeniz *et al.*, 2013).

Packaging plays a pivotal role in marketing and a role of a silent salesperson to attract customers (Wang, 2013). Carefully designed attractive package not only provides physical protection to the enclosed objects but also provide information to customers (Ghani & Kamal, 2010). Packaging as the container of the product encompasses attributes such as shape, size, design, color, signs and labels (Mugge & Schoormans, 2012). Unlike advertising, where consumers may encounter the advertisements in different places (e.g., on TV at home, on roadside billboards, or on radio while driving), consumers notice product packaging mostly at the point of sales and usually in retail stores (Wigley & Chiang, 2009; Kauppinen-Raisanen *et al.*, 2012). The visual cues on packaging are considered to have a prime importance because consumers are often under time pressure and give limited attention when choosing among competing brands and the visual packaging cues assist the consumer to take the right decision (Wang, 2013). Honea and Horsky (2012) suggested that especially with fast moving consumer goods, buyers more often rely on the food packaging cues when picking a product.

Furthermore, the food packaging and labeling converts a product from a mere commodity to a brand (Cho *et al.*, 2015). Food packaging cues play an important role by disseminating important information to consumers (De Blok *et al.*, 2007). Initially, food labelling was limited to food name, quantity, price and identity of the manufacturer (Banks, 1950; Brown, 1958; McDaniel & Baker, 1977). But recently, one of its important functions is to bridge the gap between the consumer and their need for information regarding the quality (Knibb *et al.*, 2000; Primeau *et al.*, 2000; Hasenbeck *et al.*, 2014; Spence & Wan., 2015). The cues on the packaging sometimes give an idea of the color, form and shape of the enclosed product to guide the consumer about the contents and the usefulness of the product (Piqueras-Fiszman & Spence, 2015). Detailed and well-informed food labels have become an indispensable part of today's consumption scenario (Spence & Wan, 2015). Product packaging is an efficient way to modulate people's behavior (Etile *et al.*, 2011).

With the improvement of living standards, consumers have become increasingly concerned about their health and general well-being since natural food is increasingly being replaced with packaged foods (Magnusson *et al.*, 2001). To make a product unique and distinctive, firms spend money and time on packaging more than advertisement because packaging is mostly the utmost distinguished marketing element (Mohd *et al.*, 2010). Hasenbeck *et al.* (2014) mentioned that marketers as well as manufacturers spend considerable time and substantial amount of money on packaging products in a manner that will attract consumer attention and enhance the product consumption. Food packaging has now become a popular policy tool (Miao & Mattila, 2013). With the passing time and increase in research, a wide variety of innovations in food packaging have incurred (Risch, 2009). The food packaging is becoming more handy and convenient to use as well as they are embedded with the quality cues for the consumers (Fernqvist & Ekelund, 2014). The companies are investing a lot to embed attractive and understandable quality cues on the food packages.

The demand of the quality food by consumers is increasing day by day, hence contributing to the innovative packaging (Spence *et al.*, 2012). More recent research has advanced in examining the impact of food packaging cues on consumer behavior (Spence *et al.*, 2012). While some other researchers have examined how consumers process, understand and estimate quality perception based on the provision of labels and logos (Roberto *et al.*, 2012a, b) and their impact on consumer attitudes, purchase intentions and consumption behavior (Chandon & Wansink, 2007; Steenhuis *et al.*, 2010). Further, some researchers have explored the overall economics of food packaging interventions for consumers (Crutchfield *et al.*, 2001). The attitudes and beliefs regarding food packaging may integrate with the consumer knowledge to evoke a greater value proposition (Tiwari & Herstatt, 2012). The review of the past literature reveals that the investigation of the impact of various combinations of extrinsic food packaging cues on the perceived product quality is an avenue for investigation (Draper *et al.*, 2013; Zannierah *et al.*, 2012; Loken *et al.*, 2010; Türkekul *et al.*, 2010; Tieman, 2009).

1.2 Problem Statement

Consumer behavior is an area of foremost interest in marketing (Horner & Swarbrooke, 2016). The product quality perception is a vibrant topic in the domain of consumer behavior (Kaya, 2016). The quality perceptions of the consumers regarding the food product have a unique affection with the organization (Kaya, 2016). The cognitive processing of the food packaging cues and perceived product quality is complex and less investigated (Horner & Swarbrooke, 2016; Diallo *et al.*, 2016). It is indicated by Diallo (2015) that quality perceptions regarding the packaged food products is an important area for further research. The issue of perceived product quality is always an area of interest for the researchers, because quality is the basic and major concern of the consumer (Magnier *et al.*, 2016: Rundh, 2013). The choice of food products for household consumption makes it evident

that as compared to past generations not only the disposable income has increased but the life styles have also been drastically changed (The World Bank, 2015). According to Lin *et al.* (2013) the consumer choices and awareness, a wave of competition has drifted into the marketers, manufacturers and retailers for attracting the consumers to their products. In order to remain ahead, the analysis of the consumer perceptions regarding the quality of the products is deemed necessary (Oliveira *et al.*, 2018). According to Cant and Hefer (2014) the quality perceptions are widely formed because of the cues extended towards the consumer. The cues are in the form of stimuli or signals which are noticed by the consumers while shopping (Wilson *et al.*, 2015). The perceptions of the quality are formed from the signals/stimuli which the consumer receives.

Accordingly, the study of the product quality perceptions of consumers in Pakistan developed from food packaging cues is vital from the perspective of marketing (Khan & Ullah, 2015). The world has become centralized due to the availability of vast media. The consumers from the less developed countries are also getting aware about the quality. The increasing number of households and growing trend of urbanization in Pakistan makes it prospective market for the usage of packaged food items (Euromonitor International, 2015). Rapidly growing cities and more number of migrants from rural to urban areas is becoming a major source of urbanization. The increased awareness has resulted in elevated level of education and more number of women in workforce. More women in workforce makes the Pakistani market more cluttered with packaged food products as they have less time to spend in kitchen and high level of awareness is making consumers aware about the perceived product quality.

As the life trends are changing in Pakistan changes the needs and wants accordingly. The phenomena of modernization is taking place due to heightened level of awareness and globalization (Qadeer, 2006). Therefore, the consumer of Pakistan is not only consuming packaged food products more but concerned about the quality of the enclosed food item. The level of education and awareness is making the Pakistani consumers cognizant about the food packaging, labelling and the information being presented on it. Although some of the labels are new to Pakistani food packaging for instance nutritional label and precautionary label (Sohail, 2015). The knowledge of the Pakistani consumers about the food packaging labels is relatively low as compared to developed country consumers but gradually increasing. The consumer knowledge is employed as a moderator in order to find out how the gradually increasing level of knowledge impact the formation of perceptions regarding product quality and food packaging cues. The need of the study about perceived product quality based on food packaging cues is there due rising issues. Additionally, most of the past studies have taken into account the effect of food packaging cues on the purchase intention and generally reported a positive association (Gallastegui, 2002; Jhang *et al.*, 2012). The necessity of studying perceptions of the consumers based on the food packaging cues in variety of markets has been stressed by various researchers (Ergin *et al.*, 2014; Qasem *et al.*, 2016; Shehzad *et al.*, 2014).

Even though, the scholars have attempted to explain the phenomenon of perceived product quality with various perspectives (Barber *et al.*, 2008; Argo & White., 2012), they tend to neglect the important aspect of extrinsic packaging cues (Wardy *et al.*, 2017; Dopico *et al.*, 2016). In signaling context, the product quality perceptions are greatly influenced by the cues (Amine *et al*, 2005). From the practical perspective, the packaged food industry in Pakistan has flourished (Zafar *et al.*, 2016). The trend of urbanization is increasing in Pakistan and urban consumers are changing lifestyles as compared to their rural

counterparts (Euromonitor International, 2016). This trend has given a boost not only to the packaged food processing companies in Pakistan but also to the media houses to develop advertising campaigns. The food companies have invested in packaged food production but the perceptions of the consumers regarding the quality of them still remains uncertain (Euromonitor International, 2015).

The report of Worldometer (2017) reveals that 39.2% of Pakistani population is urbanized and growing at a very fast pace. By taking into consideration the rapidly growing trend of packaged foods, food companies spend huge money in producing packaged food items and attractive food packages. Therefore, it is essential to get maximum usage out of it. According to Euromonitor International report (2017), the trend of packaged food continues to thrive but there is a gap in understanding the perceptions of Pakistani consumers towards as it is a new and recent trend. Worldometer (2017) suggests that the lifestyle trends predict that urbanized population is going to increase by 40.2% in 2020 and 50.3% in 2050. Parallel to this trend and drifting changes in the life style of Pakistani consumers the packaged food consumption is highly likely to increase also. By taking into account of these statistical figures, it is indispensable for the marketers to apprehend the quality perceptions of the consumers and how these perceptions are being impacted by food packaging cues (Euromonitor International, 2017; Worldometer, 2017). The consumer shows an intention to actually perform a behavior when the cues presented on the food package will communicate about the unexperienced quality (Kamal *et al.*, 2016). The quality perceptions about the packaged food is effected by the cues which are presented for quality assessment from the marketers (Maruyama & Trung, 2012).

Moreover, prior studies focus only on the intention to buy (Bauer *et al.*, 2005; Sultan *et al.*, 2009). Even though the consumers develop the perceptions regarding the product, but they might not be able to do that without the necessary resources and cues (Machiels *et al.*, 2016). Product quality perception of packaged products is affected by cues provided on the packaging (Song & Morton, 2016). Additionally, previous studies do not also completely describe the impact of the packaging cues on the perceived product quality (Roselli *et al.*, 2018). Food packaging cues which are extrinsic in nature is effective in creating product quality perceptions and it establishes the intentions of buyers towards the products. It is has become a key element for the long term success of relationships (Sharma & Garg, 2016). With the presence of food packaging cues, the buyers generally have to spend very less time to perceive the quality of the product (Randhawa *et al.*, 2017). The stout relationship between packaging cues and product quality perceptions motivates the frequent buying behavior (Mishra *et al.*, 2017).

It has been argued by (Lewis *et al.*, 2016) that relation between the extrinsic cues and product quality perception is vital as well complex issue and it should be probed closely in various markets. Moving on further, brand name and price have been termed as important packaging cues which have a strong relation with perceived product quality but these studies are not free of limitations. The past findings are mixed and varied, therefore inconclusive. For instance, Kim and Hwang (2016) reported a significant relationship however, Parguel *et al.* (2016) reported that price and brand name does not always cast an impact on quality perceptions. The need of studying the impact of comprehensive set of packaging cues on the product quality perception has been emphasized by (Reboller et al., 2017). Based on the literature the selected signaling theory has been utilized in various contexts of economics, education, finance and marketing (Spence, 1973). This particular

study employs signaling theory in the context of food packaging cues and their impact on product quality perceptions which is a rare attempt in consumer behaviour context.

Moving on to the scenario of Pakistan, the need of the study can be seen evidently by observing the trends as well as by the lack of empirical evidences. Pakistan being a developing country with increasing level of awareness shows a great potential for all the marketers and manufacturers for their products and services. The amplified level of quality consciousness among the consumers makes it the need of the hour to study the perceptions of the consumers regarding quality of packaged foods. This age of competition among the companies puts them into a race against each other to win in the eyes of consumers. In order to remain one step ahead it is crucial to have an empirical study which have an implication for the practitioners to focus on those food packaging cues which are having the most importance in the minds of Pakistani consumers as well as the changing level of knowledge because of awareness (Euromonitor International, 2017).

By looking at scenario of Pakistani consumer behaviour regarding the brand preferences, the food brands are considered to be higher in quality then loose food items (Akhtar *et al.*, 2016). According to Verhoef *et al.* (2002), the greater the difference between the perceived quality of branded food items and loose food items, the higher would be the preference of consumer to buy branded food. Due to increasing literacy level of females, more contribution of females in workforce and rapid urbanization, the purchasing power is gradually increasing (Lee *et al.*, 2011). The gradual increase in the purchase power is enhancing the consumption of branded packaged products is increasing in Pakistan (Khan & Nasr, 2010). Although, there is an increasing trend of branded packaged products, but there is a lack of comprehensive study in consumer market of Pakistan (Zeb *et al.*, 2011).

Additionally, the need of investigating the impact of brand name on food package relative to the other food packaging cues has been stressed upon (Grewal *et al.*, 2011).

Previous studies have established that consumer tends to have confidence in price of the packaged food product as quality cue (Chan *et al.*, 2009). Looking at the Pakistani context there is very less research on packaged food price and perceived product quality (Joiya & Shehazad, 2013). According to the results of Zaidi & Muhammad (2012) price is a major indicator of quality in Pakistani consumer purchase cycle. The perception of food quality by looking at the price is influenced by both rational and psychological factors. Kuester *et al.* (2014) suggested that the nexus of price and packaged food product should be tested in various markets to check its generalizability. By considering the suggestion of Keuster *et al.* (2014) investigating the existence and strength of the relationship between price and product quality perception would be an important contribution.

Furthermore, discussing about the scenario of country of origin effect in Pakistani market, consumers base their opinions on the country of origin label of the product. Country of origin is an effective stimulus which impacts the consumer quality judgments about the product (Tran & Fabrize, 2013). A strong and positive country of origin image not only contributes to the image of the brand but also promotes the positive country image (Chattalas *et al.*, 2008). Pakistan posits enormous investment opportunities because of its growing economy (Saeed *et al.*, 2013). The Pakistani elite class consumers take country of origin into consideration as a symbol of quality and class while going for any purchase, with reference to the extrinsic cues like price, brand name and product quality (Khan & Bamber, 2008).

The findings by Khan and Bamber (2008) concluded that the country of origin effect has a positive association with product quality judgments of Pakistani consumers and their buying decisions. The literature on the Pakistani consumers regarding impact of country of origin on quality perception is scarce (Saeed *et al.*, 2013). By investigating the extant of relationship of country of origin with the product quality perception along with other food packaging cues would be an important theoretical contribution to literature (Ahmed, 2013).

Furthermore, a survey conducted in Express Tribune Pakistan by Khan and Nasr (2011) reported that consumer in Pakistan is unaware of nutritional value and allergic reactions related to food. The supermarkets in big cities of Pakistan like Karachi, Lahore and Islamabad are bringing food brands with precautionary label into their shelves (Khan & Nasr, 2011). Pakistani consumers are not well aware of the precautionary ingredients and the label on the food packaging (Shah *et al.*, 2016). The previous studies have much focused on the impact of precautionary labels on risk avoidance. The data on the quality perceptions of the consumers formed by precautionary labels needs to be further examined (DunnGalvin, 2015). Lack of assessment regarding the quality perception formation because of precautionary labels in Asian market paves the path for investigation (Hwang *et al.*, 2016).

According to the report conducted by Riaz Ul Haq (2014) for the express tribune Pakistan, Halal food market is a trillion dollar industry in which Pakistan is a minor shareholder of just five percent. The non-Muslim countries are dominating in the Halal food exports. The food companies are involved in Halal packaged food manufacturing but none of the manufacturers have contributed in export (Riaz Ul Haq, 2014). By looking at the international demand of Halal food items, Pakistan has embarked on the project of exporting more Halal foods (Qureshi, 2014). In this project of increasing Halal food exports

many local and international food companies are expected to participate. For this government of Pakistan has established a Halal food zone in province of Punjab and city of Faisalabad (Riaz Ul Haq, 2014).

All the standards for Halal labelled food products have been recommended by Organization of Islamic Cooperation (Asghar, 2015). As the number of Muslims in western consumer market is increasing the demand of Halal labelled packaged foods has also risen. The research on the impact of Halal logo on product quality perceptions is rare as corresponding to the global boost in the Halal labelled packaged foods (Azam & Azam, 2016).

Moving on further, based on the previous studies it is evident that there are very few studies which have further flourished the concept of Halal logo (Bonne & Verbeke, 2008; Mokhlis, 2009; Syed & Nazura, 2011). Halal labelled products has no such clear understanding in the Muslim consumers (Syed & Nazura, 2011; Copinath, 2007). The number of Muslims all around the world is increasing yet modern marketing is not focusing on the impact of Halal labelled products in marketing theory debates (El-Bassiouny, 2015). If we accept the role of cultural forces in shaping consumer behaviour, it would seem inappropriate to translate previous research on consumption and identity construction to consider Muslim consumers worldwide as uniform (Abdul Latif *et al.*, 2013). The influence of Halal labelled packaged food products in consumer behaviour is studied on very weak basis (Bonnie & Verbeke, 2008; Sandicki *et al.*, 2011).

Latif *et al.* (2016) suggested that knowledge level, more than any other factor, could predict about the quality. Yoon *et al.* (2013) argues that the consumer knowledge impacts the perceptions of the consumers regarding the product however regional differences exist because the nature of the market differs all over the globe. Due to the increasing level of

education in Pakistan the consumer is becoming knowledgeable and they more likely to promote more healthful diets because more highly educated people access and process nutrition information more effectively (Latif *et al.*, 2016). Although, the knowledge level of Pakistani consumers is increasing, the literature has a very minimal support on this regard. Investigating the relation of consumer knowledge as a moderator could yield some interesting insights regarding Pakistani consumers (Latif *et al.*, 2016). Consumer knowledge has been employed as a moderator variable in various consumer studies in various frameworks (Rao & Monroe, 1988; Chiou, 2003; Cowly & Mitchell., 2003; Perrouty *et al.*, 2006; Yoon *et al.*, 2013). Consumer knowledge refers to the amount of information present with the consumer regarding the particular thing. The consumers which have information tend to relate the cues of food packages with the quality more efficiently. The package enclosing the food item inside must be identification for the product inside for tracking and tracing (Bhukya & Singh, 2016).

By reviewing the previous studies, it can be clearly established that research efforts are more focused on the purchase intention of the buyer (White *et al.*, 2016). These studies are relatively fragmented and do not consider a comprehensive set of packaging cues to describe the quality perceptions of the end user (Lahteenmaki *et al.*, 2010). It has been argued by Ajzen (1991) that even though consumer intends to perform a certain behavior but there might be a possibility they might not be able to perform without necessary informational cues. The previous comprehensive studies have been done in overseas market specially Europe (e.g, Teas and Agarwal 2000; Wansink *et al.*, 2000; Kardes, Cronley *et al.*, 2004; Draper *et al.*, 2013; Zannierah *et al.*, 2012a; Tieman, 2009; Loken *et al.*, 2010; Türkekul *et al.*, 2010). Very few studies of basic nature have been conducted in Pakistan. The nature of the consumer varies from market to market and cultural differences play a major decisive role in the affective and cognitive choices of consumption and spending (Pedersen *et al.*, 2015).

Considering the argument of Pedersen (2015), studying the variables and theories in cultural context of Pakistan can produce interesting results. Thus, the major problem that this study aims to address is that how the food packaging cues impact the perceive product quality and how is this impact moderated by the consumer knowledge.

1.3 Research Questions

Based on the past literature and the problem statement, this study aims to answer following research questions:

1. What is the extent to which perceived product quality is influenced by food packaging cues in consumer market of Pakistan?
2. How the relationship between perceived product quality and food packaging cues is moderated by consumer knowledge?

1.4 Research Objectives

This particular study aims to investigate the impact of food packaging cues on the perceived food quality. The specific objectives of this study are as follows:

1. To determine the impact of food packaging cues on the perceived product quality.
2. To determine how the influence of the food packaging cues on quality perception are moderated by consumer knowledge.

1.5 Significance of Study

This study aims to contribute to the consumer behavior knowledge in several ways. This study presents a comprehensive model for understanding the consumer quality perceptions formed on the basis of food packaging cues. It widens the knowledge base by highlighting the relation between the concept of food packaging and product quality perception. Unlike the developed world, there is minimal research work on perceived product quality and food

packaging cues in developing countries (Mehta *et al.*, 2017; Menger & Graham, 2017). The attractive packages are becoming a major tool of communication and perception formation. The packaging of food products is also becoming innovative. The food packages have visual representations which the consumers see and respond to. As suggested by literature, limited attention has been given to study extrinsic food packaging cues and consumer perceived product quality, hence this study aims to fill the research gap in this regard.

There is a marked lack of research related to impact of Halal logo of product quality perceptions. This study aims to expand the literature about Halal logo on food packages. Relatively little research has attempted to shed light on this relationship between Halal logo and product quality perceptions. Extending the role of Halal logo into consumer behaviour, would be a substantial theoretical contribution of this study. Despite of the fact that Pakistan is an Islamic country, the research on Halal logo is very rare. By looking at the literature it is established that there is a gap of empirical evidence.

This research would contribute to the generalization of signaling theory. The signaling theory has been used in the studies of economics, finance, information technology and marketing. This would be a unique attempt to use this theory in the discipline of consumer behaviour for studying product quality perceptions. As this theory has yielded empirical results in western markets which might not be applicable to other countries. Since the theory has a basic concept that signals are received which are beneficial in the formation of notions and perceptions, this study also shows the similar concept that signals/ stimuli are sent from the marketers towards the consumers in the form of food packaging cues which help the consumers to makes perceptions regarding the quality of the product which is enclosed on the package. Thus the theory is extended in the avenue of consumer behavior

more specifically in investigating the impact of food packaging cues on quality perceptions. This study would not only encourage other researchers to utilize this theory for other product categories but also expand the horizon and applicability of the theory to other disciplines.

This research bridges the gap by providing insight regarding the consumer market of a developing country. This study contributes to the body of knowledge by testing the applicability of existing theories in an under developed country's market. However, the significance of the investigation is that it offers comprehensive information about the product quality perceptions formed on the basis of extrinsic food packaging cues. This study aims to investigate the extent of relationship between the food packaging cues and perceived product quality. From the standpoint of practitioners, this study provides a significant contribution in the form of understanding the mindset of consumers in a shopping situation. It may also assist the marketers to devise the marketing strategies to create favorable product perceptions and long term relations with the consumers.

The study also evaluates food packaging cues and their impact on the perceived food quality. This provides clear idea of the consumer orientation and could be helpful for the practitioners to adopt the best strategies in embedding the strong packaging cues. The analysis of the study can assist them to utilize their resources effectively on the cues which are considered to be more important from the viewpoint of consumers. A good comprehensive study can assist the practitioners to devise such marketing plans which can attract more potential customers.

1.6 Scope of the Study

The study aims to investigate the influence of packaging cues on the perceived food quality in Pakistani consumer market. Islamabad and Rawalpindi will be selected as sample because they are major big cities of Pakistan having a dense and diverse number of people as inhabitants from all over the country. As the capital of Pakistan, Islamabad is the most developed city. It has up to date amenities and infrastructure and large number of educational institutes. Islamabad, the capital city of Pakistan is located in the federal capital territory of Pakistan. It is the most diverse and cosmopolitan city of the country. Being the capital of Pakistan Islamabad comprises of all the head offices of the major companies of Pakistan, has around sixteen public and government universities and a wide range of employment opportunities. In 2016 the estimated population of Islamabad is 1.43 million. Islamabad embraces modern cultures and ideas while keeping its rich cultural heritage intact. Despite of its establishment in 1960's Islamabad has settled well and grown in population steadily.

The high percentage of young residents, females, attractive job market and numerous universities combined with pleasant climate the future of Islamabad is very bright. Rawalpindi is the twin city of Islamabad and is considered to be one of the big cities of Pakistan with diverse cultural people. Together they form Islamabad- Rawalpindi metropolitan area. Rawalpindi has a population of approximately 3 million which diverse from all over the country. Rawalpindi is a district of Pakistan having a ratio of 53.16% males and 48.80% females. Rawalpindi being the sister city of Islamabad is also well established in infrastructure and is densely populated with diverse cultures from every social class. A sample of 504 consumers is appropriate for the study for questionnaire administration. The data is collected from the most popular and largest shopping malls who are famous for their grocery outlets are selected for data collection through intercept. Three

malls were selected from Islamabad however four were selected from Rawalpindi. The day and time sampling is used for data collection.

Table 1.1

Selected Malls for Data Collection

City	Malls
Islamabad	Centaurus Mall
Islamabad	Beverly Centre
Islamabad	Kohsar Market
Rawalpindi	CSD Mall
Rawalpindi	CSD Super Mall
Rawalpindi	Green Valley Premium hyper mart
Rawalpindi	Rania Mall

1.7 Operational Definitions

The definitions of the important terms are being presented in the upcoming sections.

1.7.1 Brand Name (BN)

A perceptible sign of an organization and its products by which the customer is able to differentiate an organization and its products (Babčanová, 2010). In this particular study brand name is considered as a food label through which the consumer can perceived the quality of the enclosed product.

1.7.2 Country of Origin (COO)

Country of origin is defined in the literature as the country of manufacturing, growth or production of the product. It is generally considered to be the source country of the product. The definition is being adopted from Rao and Romeo (1992). The country of origin is taken as an extrinsic cue which is presented on the food packaging by the marketer. The label which is being presented on the packaging communicates about the quality of the product.

1.7.3 Price (PR)

Price is conventionally described in literature as the amount of money given, required or expected as a payment in exchange of receiving something (Kastanakis & Balabanis, 2012). However, in this particular study the price is taken as an extrinsic cue which not only tells about the monetary value of the product but also reflects about the quality of it.

1.7.4 Nutritional Label (NL)

The panel found on the packaging of the food which guides the consumer with overall nutritional value and quality is called the nutritional label (Cheftel, 2005). In this particular study, nutritional label is taken as a food packaging cue which can give a perception to the buyer about the quality of the enclosed product prior to the actual usage.

1.7.5 Precautionary Label (PL)

Precautionary labels are described as the safety statements provided by the manufacturers to the consumers to prevent any potential hazards (Hourihanne, 1997).

1.7.6 Halal Logo (HL)

Halal logo is the mark displayed on any product to inform consumer that the particular product is free from any ingredient which is prohibiting in Islam for consumption.

1.7.7 Perceived Quality (PQ)

Perceived quality is the perception of consumer regarding overall superiority of the product or service as compared to its alternatives.

1.7.8 Food Packaging

Food packaging is the outer covering of the food item which protects it and provides consumers with the necessary information helpful for decision making.

1.7.9 Food Packaging Cues

The cues external to the product like price, brand name, labels and logos which influence the consumer's quality perception.

1.8 Organization of the Thesis

This section presents a brief overview of the structure of thesis. Chapter one of the study offers an introduction of the topic as well as the problems and issues related to the topic under study. A broad literature review related to the topic and all the variables under study is presented in chapter two. Theoretical framework and the hypotheses development are also explained in chapter two. Chapter three entails of various aspects of research methodology. This chapter comprises of sampling, data collection and proposed analysis methods, it also includes the description on each aspect of the instrument formation and pilot data analysis. Chapter four includes the data analysis part using structural equation modeling approach as well the results of hypotheses. At the end the interpretation and discussion of findings are presented in chapter five along with the implication, limitations and suggestions for future study.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

This chapter reviews most appropriate literature regarding food packaging cues, theoretical framework and the theory being used in this study. This chapter discusses the brief review of Pakistani consumer market. The literature review on food packaging is also explained in the chapter. A section explaining food packaging cues is included and a discussion on underlying theory. This chapter further sheds light on key variables under study. Furthermore, theoretical framework and hypotheses development is included and finally summary of the chapter is being discussed.

2.2 Pakistani Consumer Market

The Pakistani consumer market is less affluent as compared to other markets worldwide (Asian Review, 2014). The informal sector in Pakistan is supplementing the income earned from the formal sector by the consumer of Pakistan (Tariq, 2016). The consumption of packaged food items has relatively increased and gradually increasing. The media and the power of connectivity are altering the life styles of Pakistani consumers (Tariq, 2016). The population boost in Pakistan is 2.1% per year. A hefty 28% of the country's 200 million people are in the 15-29 age brackets. Only 38% of the population lives in towns and cities, leaving significant scope for urbanization. The booming informal from the annual remittances of $18billion also increases the consumption capacity and trend towards the packaged food increases (Asian Review, 2014). As the urbanization and awareness spurs the trend of using packaged food items tends to increase.

According to the report of Asian Review (2014), Pakistan is a country where the middle class is growing and the process of urbanization is taking place rapidly. The rising number of working women is also adding to the disposable income. With the changing trends convenience along with high quality is gradually becoming the deciding factor in purchase cycle of Pakistani consumers (Saleem *et al.*, 2017). Ali *et al.* (2017) continues to argue that although the current scenario states that the packaged food items account for 2% of the total food market but the gradual changes in preferences shows a lucrative potential of increase in the purchase of pre-packed foods. Food is a basic necessity of life which is an undeniable fact. The quality of the pre- packaged food has become a major national issue in Pakistan (Asim, 2012). The consumer in Pakistani market is not satisfied with the quality of the product they perceive from the packaged food (Zafar *et al.*, 2016). There is an uncertainty regarding the availability of adequate packaged food product and to acquire them in socially acceptable ways (Muhammad *et al.*, 2017).

The major cities of Pakistan including Karachi, Lahore and Islamabad, along with the provincial capitals, i.e. Quetta and Peshawar account for the major literate population of the country. The marketing potential in Pakistan holds prime importance (Khan *et al.*, 2015). There are a number of multinational companies currently operating in the county. Multi-National Enterprises as they are more commonly referred as the major signs of how globalization has in effect created organizations that make products which are then sold the world over and thus their marketing campaigns also target consumers which belong to diverse, multi-ethnic backgrounds (Khan *et al.*, 2015).

According to World Bank report in 2016 Pakistan is one of the poorer countries of the world with a human power of approximately 193 million people. This represents a significant market size that these multinational companies want to take advantage of. This is what accounts for their presence in Pakistan. These MNCs spend a considerable amount of capital and other resources into developing extensive marketing campaigns that can target people belonging to all social classes of the country. As the economies of the world are currently facing double-dip recessionary periods, what matters most to these MNCs now is to tap into newer, less explored markets in order to increase their profits (Euromonitor International, 2015).

2.3 Perceived Quality

The perceived quality is defined the value perception of the consumers regarding the overall superiority of the product. The first concept formed by the consumers regarding the quality of the product as compared to its alternatives (Kim *et al.*, 2018). The perceptions of the consumers can be formed based on the product quality as well as manufacturing quality. Perceptions are the judgements formed by the consumers which are important to the practitioners and marketers (Akdeniz & Calantone, 2015). The quality which is perceived by the consumer regarding the quality is intangible as it is based over the feelings. Perceived product quality is an important concept which is considerably a subject of interest for practitioners, researchers and academicians (Sweeney & Soutar, 2001). The integration of the perceived product quality with other concepts like food packaging cues has been given less attention in the past literature. The concept of perceived product quality has gained much attention by various stakeholders in consumerism because of its evident importance in the field of marketing. It is believed that higher product quality perceptions lead to repetitive purchase behaviour which is a building block of the business (Kim *et al.*, 2018).

2.3 Food Packaging

In the modern consumption environment packaging plays very important role in marketing process (Rahmat *et al.*, 2016). The packaging serves as a protective container and also as a platform for presenting information regarding the product. Packaging as a marketing tool comprises of many attributes and cues for instance shape, size, design, color combination, logos and labels (Ditcher, 1957; Underwood, 2003). The consumer is confronted with the information from variety of sources like commercials, videos internet etc. In the point of purchase, packaging delivers valuable information to the consumer aiding him to make purchase decisions (Underwood & Ozanne, 1998). Due to increasing number of information sources it has been a challenge for marketers to effectively transfer the important information to consumers. Consumers have become skeptical and elusive as compared to the past and it is becoming hard and necessary for marketer to reach them with information (Turnbull *et al.*, 2015). The most advanced form of marketing tool is the product packaging as within the retail environment consumer comes across with the product and gets into contact with packaging (Rahmat *et al.*, 2016).

The evidence from the past studies proves that the consumers most of time make their decision right on the store shelf. At point of purchase, the power of packaging to communicate and influence the consumer is heightened up (Vartan & Rosenfeld, 1987). According to Euro monitor (2015) the grocery outlets in the country display the variety of packaged products ranging from private labels to international brands. According to report in Dawn newspaper by Aazim (2015) the packaged product businesses continue to thrive in Pakistan as they are backed by increased urbanization and adaptation of healthy lifestyle. The consumers when look at the packaging of the product tend to cognitively take a cue from them about the quality of the product (Brandt *et al.*, 2009). Nutrition labels are designed to promote healthy lifestyle, better food choice and balanced serving size

(Darkawa, 2014). They also provide a prior to consumption nutritional information, while buying food products is a matter of concern for researchers (Brand *et al.*, 2017).

Precautionary labels are basically the health warnings that address the hypersensitivity issues of the consumers (Chiuve *et al.*, 2011). Some consumers may be hypersensitive to certain specific ingredients of the product. Ingredients mean the components or elements that make up a certain recipe (Eigenmann, 2001). Reading the precautionary label is important as they are utilized by consumer for avoiding those ingredients to which they are intolerant (Kattan *et al.*, 2011). The allergic reactions can only be prevented by the total avoidance of the allergens. These allergens are likely to be present in the food products (Astwood & Fuchs, 1996; Hourihane *et al.*, 1997; Pumphrey, 2000; Sampson, 2004; Taylor & Hefle, 2001).

Furthermore, consumers belonging to the religion of Islam have an obligation to eat according to the standards set by the religion (Bonne & Verbeke, 2008). To Muslim consumers, eating is a form of worship and an act to safeguard to their faith (Regenstein *et al.*, 2003; Zannierah *et al.*, 2012). There are ingredients which are permitted or restricted to certain group for Muslims consumers. They are abstained from consuming pork and anything in which its derivatives are used (Tieman, 2009). The halal logo on the product package provides consumers with information that either it is in compliance with the Islamic guidelines (Mokhlis, 2009). The presence of the Halal logo communicates the product is high quality (Fischer, 2016). Consumer rationally infers that not only the food is on compliance with the religion but the high quality product would provide with more information and every needed detail (Moorthy & Hawkes, 2005). The religion to which a consumer belongs plays the vital role in development of consumption behaviour (Fischer, 2016). A study by Fischer *et al.* (2011) analyzed that people belonging to different religious

groups have important implication on their behaviour and quality perception for example presence of Halal logo is symbol of quality for Muslim consumers but not for people belonging to other groups.

The brand name is a factor that casts an impact on the preferences and quality evaluations of the food (Chovanová *et al.*, 2015). The brand name is considered as an important packaging cue and also serves as a quality determinant (Babčanová *et al.*, 2012). Food brands are important to consumers as they act as a focal point for getting information about the quality of the product. For the companies, brands ensure the consumer loyalty and determine future cash flows. Brand names help consumers to evaluate the products and choose one brand over another with increased confidence level (Loken *et al.*, 2010). Brand name is an asset of the business, which has legal protection cover and cannot be duplicated (Chadwick &Holt, 2015).

The importance of brand name has been further explained that the brand names are gradually built up by impression formation and these impressions are confirmed or destroyed on the actual experience (Transparency, 2005). The brand name serves as an informational cue for the consumer, which aids him to recognize the product and make judgments related to the quality (Moisescu, 2009). The brand name acts as a retrieval cue from the long term working memory of the consumer. The retrieved information can be based on the past experience, the information about the brand or the perceptions/brand associations (Winkielman *et al.*, 2000; Chadwick & Holt, 2015).

Country of origin is the packaging cue which communicates the source country from which that particular product originates (Van Ittersum *et al.*, 2003). Image of the country of origin is associated with the product which develops the perceptions of the consumers (Mørkbak *et al.*, 2010). The country image is described as the general perceptions and imagery the consumers form about the particular country or region (Türkekul *et al.*, 2010). The country of origin cue influences the consumer's evaluation of quality (Kim *et al.*, 2009). The country of origin is the effect of product which describes the extent to which the consumer's product evaluations are being influenced by country image country image (Lee *et al.*, 2013). The initial investigations on country of origin as quality indicator for the consumers started in 1960's (Al-Sulaiti & Baker 1998).

Country of origin was displayed on the product as "Made In" label. The scope of the study on the country of origin expanded with the increased interest in the field (Al-Sulaiti & Baker 1998). Country of origin is now considered to be the complex multi- dimensional construct which comprises of consumer's quality perceptions regarding the country of origin (Luceri *et al.*, 2016). The consumer processes the packaging cue of country of origin which results in the formation of perceptions related to the country image. These perceptions are used further for the product evaluations and the positive evaluations are vested in company's interest (Ahmed, 2008; Chamorro *et al.*, 2015).

Price is a salient cue of the product whose importance cannot be denied as it serves a quality cue and buyer perceives the eminence of the product from the price (Bolton *et al.*, 2010). According to the investigations of the previous researchers price has been established as an indicator of quality especially in the situations when consumer is less knowledgeable about the product (Rao & Monroe 1989; Dickson & Sawyer 1990; Manrai *et al.*, 1998). It has been reported in past investigations that consumers have a prevailing belief that higher

quality products are worthy of high prices whereas the less expensive products are lesser in quality (Glitsch, 2000; Grunert & Bredahl 2004; Jover *et al.*, 2004; Kardes *et al.*, 2004). Conversely, in other researches price is found to overridden by other informational cues like brand name and packaging information (Homburg *et al.*, 2005; Xia *et al.*, 2004). The influence of the price as quality indicator is much more powerful when consumer has less knowledge (Weisstein *et al.*, 2013; Ramanathan *et al.*, 2006). The impact of comprehensive set of packaging cues taken in aggregation with the moderating role of consumer knowledge can produce interesting results for the academicians and practitioners (Lee & Yun., 2015).

2.4 Food Packaging Cues

The products which are visible in the shopping environment comprise of bundles of cues and attributes. The cues can be intrinsic or extrinsic in nature (Teas & Aggarwal, 2000). The intrinsic cues are the attributes which are inherent to the product itself however the extrinsic cues are the characteristics which are not inherent to the product itself but have a strong relation to the product. According to Alba (2000) and Kardes *et al.* (2001) the consumers rely mostly on the extrinsic cues when the intrinsic attributes of the product are not easily visible as in the case of packaged products. In case of packaged products it is hard for the consumers to assess the quality tangibly. The consumers make perceptions regarding the quality based on the external cues which are available in the shopping environment. According to the findings of Alba (2000), consumer do not possess the ability to process and evaluate the inherent cues of the product every time hence they have to rely on the extrinsic cues. The reliance on extrinsic cues can occur due to majority of reasons including less level of consumer knowledge, less confidence or lack of information. However the extrinsic cues could be believable to some consumers more compared to intrinsic ones because they believe them to be more genuine and authentic (Wansink *et al.*,

2000). According to Wansink *et al.* (2000), the labelling and pictures cast a high impact on the quality judgments of the consumers. The results were further explained through an experiment where the subjects were tested by giving them bars of cereals and they reported difference in texture which was labelled as contains soy. However, in reality none of them contained any trace of soy in it.

2.5 Food Packaging Cues as Quality Signals

Simmonds *et al.* (2018) argues that the resultant of both expected product quality and experienced product quality is called the product perceived quality. Perceived quality is the general perception of the consumers about the product. The perceived quality is based on number of attributes which a product possesses. Ericsson and Kinstich (1995) presents the concept that product comprises of an array of elements called the image variables that are not the part of the product physically but have a strong link to the product. These image variables are called the extrinsic cues and these cues must be taken into account (Erickson & Kinstich., 1995).

The main highlighted quality attributes of the product which were generally used as quality indicators were price, brand name and advertisement (Zeithmal, 1988). Zeithmal (1988) highlights that other than price, brand name and advertisements there are many other important signals which serve as a matter of sheer importance to the consumers. Several authors have studied the relationship of labelling (Aaron *et al.*, 1994; Tuorila *et al.*, 1994; Wansink *et al.*, 2000), advertising (Deliza & MacFie, 1996; Jaeger, 2006), price (Dodds *et al.*, 1991; Rao & Monroe, 1989), brands and designation of origin (Dodds *et al.*, 1991) with consumer expectations.

The cues like the labels, allergen information, the religious certification logo, the aesthetic features etc are used for quality inference by the consumer (Steenkamp, 1997, 1996, 1990; Wierenga, 1983). The prime aim of the enterprises is to present the right blend of quality signals in the form of a product packaging to consumer in order to satisfy the consumer which ensures the success of the product in the market place (Wulf *et al.*, 2001).To provide the product with the required information and symbols is the main aim behind studying the perceptions of the consumer (Mueller & Szolnoki, 2010). Due to growing interest in the healthy and safe food items, the manufacturers provide products with increased enrichment and reduced unhealthy components. The manufacturers also exhibit that safety and enrichment in the form of labels which serve as labels (Šebečić *et al.*, 2007).

The food packaging influences the formation of perceptions and expectations regarding the product (Vidigal *et al.*, 2011). These expectations and perceptions can be confirmed or disconfirmed by the manufacturer and marketer (Vidigal *et al.*, 2011). The positive perceptions and higher level of expectations presents greater opportunities to be selected and consumed and reverse ways lower expectation level would lead lower chances of product preference and more chances of it to be ignored (Deliza *et al.*, 1999; Jaeger, 2006; Vidigal *et al.*, 2011). By the visual appearance and visual components present on the food packages transmits the perceptions in the mind of buyer as packaging serves as the first point of contact between food and consumer (Shepherd *et al.*, 1991). The study carried out by Varela *et al.* (2010) on the impact of packaging and information on packaging on consumer's expectations reported that in most of the cases there is a significant positive relation between packaging and information with the consumer's perceptions.

The external evidences exhibited on the packaging regarding nutrition, allergens, health claims, place of origin, religious and ethical symbols are the ways by which consumer forms hedonic expectations related to the product (Barreiro *et al.*, 2010). The info present on the packaging of the food is an extrinsic cue which is not a part of the product physically but cast an impact on the behaviour of the consumer. These food packaging cues can create an opportunity for making healthy food preference by the consumer and creates acceptance of the product in the consumer decision cycle (Baixauli *et al.*, 2008; Verbeke, 2005; Grunert, 2002; Steenkamp & Baumgartner, 1998; Tudoran *et al.*, 2009; Vidigal *et al.*, 2011).

Consumers while buying packaged food products consider the cues present on the packaging primarily. These cues are utilized when evaluating the quality. Consumers are not necessarily always objective about the formation of their opinions and quality perception (Bredahl, 2003). In the modern market of innovation, the food packaging cues are considered to be the informative cues such as brand, price and labelling (Keren *et al*, 2002; Chung *et al.*, 2006; Chaudhary, 2014).

Similar results were proposed by Holbrook *et al.* (1986) that for packaged food items extrinsic cues have much importance as compared to intrinsic cues as they can only be inferred on the basis of extrinsic quality cues for such packaged grocery. When the buyer is not able to feel the physical properties of the product like in packaged food items, then the intrinsic attributes can only be predicted via extrinsic cues. For example, the product which has been labelled Halal is perceived to be healthy, tasty, safe and superior in quality (Espejel *et al.*, 2007). Extrinsic cues were declared good predictors of quality for instance brand name, food labels, packaging logos and country of origin label in previous literature (Dodds, 1991; Lin & Sternquist, 1994; Kardes *et al.*, 2004). Extrinsic cues are utilized more

by the consumers who have less knowledge regarding the product or the product category. Consumers who have low levels of knowledge about the product mostly ignore the intrinsic cues because they are confusing and difficult to understand and interpret (Maheswaran, 1994). One's who have more knowledge about the product and category can easily understand and correctly interpret the intrinsic cues (Spence *et al.*, 1998; Kim *et al.*, 2009).

The cues presented by the marketers on packages are gaining more attention of the researchers now-a-days (Qasem & Bahrun, 2016). Relationship brand name, price and country of origin with perceived product quality are found significant (Essoussi *et al.*, 2007; Qasem & Baharun, 2012). Several studies have conducted to examine the relation of the price, brand name and country of origin in various European markets (Parvin & Chowdhary, 2006). The reiteration of the similar nature of study in non-western and emerging consumer markets is necessary to generalize the findings of various researchers (Qasem *et al.*, 2016). The revisiting of literature suggests that there is lack of empirical studies in developing consumer markets which examine the quality perceptions of the consumers formed on the basis of extrinsic cues. This particular effort aims to bridge the in the literature by taking under investigation a comprehensive set of informational cues such as brand name, price, country of origin, nutritional labels, precautionary labels and Halal symbol by emphasizing on the moderating role of consumer knowledge.

2.6 Underpinning Theory: Signalling Theory

The extrinsic cues are considered as signals of the product quality in marketing literature. The signaling theory was proposed by Spence (1973). The term market signal was introduced by taking economic perspective in view (Spence, 1973). The concept was initially explained by predicting the suitability of any job candidate by education level (Renwick *et al.*, 2013). The extrinsic cues are examined under the phenomenon of signaling

theory in this study. The recent arena of research is directed towards investigation of the impact of extrinsic cues on perceived product quality. More specifically, the research efforts are being drawn towards the fact that how quality perceptions are being influenced by extrinsic cues. The cues which are most consistently being investigated include brand names (Darby & Kari, 1973; Olson & Jacoby, 1972; Ross, 1977) or brand advertising (Chen *et al.*, 2014), product features or appearance (Atkinson & Rosenthal, 2014), price (Guo & Jiang, 2016), and product/retail reputation, store names, warranties, or guarantees (Noh & Borges, 2015). According to Park *et al.* (2017) modern markets comprise of various quality signals on the packages such as origin, ingredients, brand name, and country of origin. This study will focus on product quality perceptions via various packaging elements being utilized as extrinsic cues.

Connely *et al.* (2011) states that signaling theory practically aids in the mapping of consumer behaviour. The prior studies using signaling theory considered consumer purchase behaviour and formation of quality perceptions through packaging elements serving as quality signals (Kirmani & Rao, 2000). According to the argument of Connelly *et al.* (2011) the signals extended towards the consumers are in the form of favorable cue regarding the product about to be sold. Spence & Fiszman (2012) states that the fundamental focus of the theory is towards the reduction of information asymmetry among the buyers and sellers. Fletcher *et al.* (2017) states that when examining the functioning of signaling theory in product market, it is referred as framework for the comprehension the viewpoint of consumers when they are exposed to various types of signals. Connelly *et al.* (2011) argue that the consumer interprets the signal being communicated to him by the seller. The signals sent out towards the consumers include price, advertising appeals and all other apparent extrinsic cues.

Signals are inherent in the shopping environment. While in a shopping environment the consumer seeks for the signals while buying the product. The two parties involved while conveying the information through signaling process. One conveying the information (signaler), one is the information seeker (receiver) and signal itself (Connelly *et al.*, 2011). Signalers tend to throw the positive signals by which they intend to communicate. The consumers tend to develop perceptions related to the unexperienced quality of the product by referring to these signals.

Furthermore, specifically in the arena of packaged food, the cues and attributes on package tend to impact the perceptions regarding unexperienced quality. The cues present on food packaging in most recent times has played a major role in perceiving the quality (Fernqvist & Ekuland, 2014). Recognizing this trend, various companies have started to include and advertise the attributes that would benefit consumers and the company sales. The signalers own the information regarding any individual, product or organization (Spence, 1973; Kirmani & Rao, 2000; Ross, 1977).

According to Moss *et al.* (2015) signaling theory is extensively used in finance and marketing. Wells *et al.* (2011) propose that signaling theory is used to address the limited or hidden information in pre-purchase context. In addition, signaling theory is employed in entrepreneurship literature to examine the signaling value of a founder inclusion (Busenitz *et al.*, 2005), venture capitalist, and angel investor presence (Elitzur & Gavious, 2003). It has been stated by Grigoriou *et al.*, (2016) that food packaging cues which are not inherent to the product itself. It has been proved by various studies that various food packaging cues are used as a signals to assess unobserved quality (Jha *et al.*, 2013; Gurhan-Canli & Batra, 2004). In addition, information asymmetries occur when different people have different kinds of information (Stiglitz, 2002). Some information is privately owned

or not readily apparent, which causes information asymmetries between those who have the information and those who could make better decisions if they had it. However, the insights regarding these criteria are limited; therefore, gaps (information asymmetries) are present. For economic, management, and entrepreneurship disciplines, the profundity of signaling theory ascribes costs to information acquisition processes that resolve information asymmetries (Connelly *et al.*, 2011). Signaling theory has been widely applied in various fields to explain choice phenomena.

In marketing, signals can be shown by delivering information about seller characteristics to buyers to examine and appraise the validity and credibility of a seller's qualities, and the costs of deceptively making up a signal must exceed the benefits of faking it (Mavlanova *et al.*, 2012). In addition, for companies, systematic approaches for formulating an effective signal can help reduce information asymmetries for their customers and can provide a strong competitive edge (Moss, 2015). The desired goal of signaling primarily focusses on positive information communication to deliver the positive attributes of product quality, service quality, or organization function to facilitate purchase intentions, investment, etc. (Wells *et al.*, 2011). Pezzulo *et al.* (2013) based on signaling theory propose that various apparent signals communicate the quality meanings of the product or service. DeAndrea (2014) based her argument on signaling theory that the external cues like warranties for life time gives an impression about the quality of the product as well as the credibility of company.

Recently, various researchers have used signaling theory in terms of communication perspective (Grigorious *et al.*, 2016). The Signalling theory is basically aimed the information and perception making processes. According to Stiglitz (2002), the perceptions and judgements are developed on the basis of information which is available to them. The

asymmetry of information occurs when difference among the knowledge level of people exists. The previous models of economics were based on the perfect information disclosure, however this theory takes into account the phenomenon of information asymmetry (Stiglitz, 2002). The most distinguishing characteristic of the theory is the perception of quality. The primary function of this theory is the intentional dissemination of information in an attempt to convey the attributes of a certain product. The signalling model proposes that those receivers are the outsiders which have a lack of information regarding the product (Connelly *et al.*, 2011). When the company conveys the signalling message, the signaler needs to disseminate it in a manner that would benefit him. For instance, convincing the consumer to choose the product over another alternative. In the context of marketing, the receivers are the consumers, the signals are the cues or product attributes and manufacturers and practitioners are the senders (Basuroy *et al.*, 2006).

In this particular study, the signaling theory fits in as it aims to investigate the influence of food packaging cues (brand name, price, country of origin, nutritional label, precautionary label and Halal logo) on the perception formation of the consumer which will ultimately lead to quality judgment and appropriate food preference and selection. The theory states that in the shopping environment the consumer looks for the stimuli for getting information. Similarly, in the shopping environment when the consumer is looking for the food product, they look for stimuli from which they can get the information. The food packaging cues serve as stimuli for the consumer from which they get the information and infer the quality of the product. These judgments lead to perceptions regarding unobserved quality if the product.

2.7 Key Variables under Study and Hypotheses Development

The previous studies have used various food packaging elements to investigate their impact on product quality perception. The food packaging is considered to be an essential marketing tool in the modern arena. The foods packages are embedded with a number of cues which are used are predictors of food quality. This study aims to investigate the impact of food packaging cues on the food quality perception. The review of previous studies has revealed that there is a need to investigate the impact of a comprehensive set of food packaging cues on the perceive food quality. The revisiting of past studies also uncovers the need of this type of research on the emerging markets of developing countries.

The previous researches have taken into consideration the brand name as an important cue which serves as a quality indicator for the consumers. According to Shende (2014) the study on the brand name as a quality indicating cue is still a lucrative research area on emerging consume markets. Chavnova *et al.* (2015) suggests that indication of brand name is very important for consumers in quality judgments. According to Winkielman *et al.* (2009) a successful brand name plays vital role in quality perceptions. The dimensions which have been addressed consistently in the literature relationship with brand name are reliability, social approval and sense of prestige. The knowledge possessed by the consumer regarding the brand is a node in the memory of consumer to which variety of associations are linked. According to Janssen *et al.* (2012) the brand awareness and image are vital dimensions for any enterprise. The knowledge regarding the brand plays a central role in the quality perceptions of the consumer (Alba & Hutchinson, 2000). According to the suggestion of Qasem *et al.* (2016) that a comprehensive number of food packaging cues need to be pooled together in an emerging consumer market to study their impact on the product quality perceptions. Empirical and practical gaps still prevail regarding the impact

of food packaging cues on quality perceptions in emerging market in general and Pakistani market in specific.

The prior studies explicitly highlight the importance of perceived quality in the field of consumer behavior. The perceived product quality is a vital concept for academicians as well as practitioners. Chaudhary (2014) argued that the manufacturers sell their packaged food products by embedding quality cues. The consumer expects the quality from the actual usage of the product based on the judgments formed on these quality cues. The manufacturer and marketer are responsible for meeting the expectations of the consumers. Nilforushan and Haeri (2015) emphasized on carrying out investigation with food packaging cues. The need of similar kind of study has also been stressed by (Hussain & Ali, 2015).

Overall, the revisiting of the literature establishes that a holistic model with a comprehensive set of packaging cues in needed to explain their relative impact on product quality perceptions. The packaging cues of brand name, price and country of origin are investigated widely in the Western markets. Similarly, the research on nutritional labels and precautionary labels have also been investigated in western arena and on western consumers but there is a deficiency of data from other markets like Asian and emerging one's. The research on Halal logo is rare not only in European markets but specifically in Asian Muslim countries. The present, study has a potential to yield some interesting results from Pakistan.

2.7.1 Product Quality Perception

The concept of product perceived quality has been defined by Aaker and Joachimsthaler (2000) as "product perceived quality is a unique kind of association created in the mind of consumers which not only impact the brand associations on the minds of consumers but also the profitability of the manufacturer." Further the perceived quality is defined by Zeithaml (1988) as "the judgment of the consumer about the overall superiority or excellence of the product." It has been emphasized by Zeithaml (1988) that perceived quality is dissimilar to actual quality and comprises of a higher level abstraction. The difference between overall quality and undetected quality is called the perceived quality (Lindberg *et al.*, 2018). Carsana *et al.* (2018) reports that determination of consumer perceived quality leads to satisfied consumer base. The overall meanings of the perceived quality is common in all the definitions is that "perceived product quality is the abstraction of the overall components of the product, both tangible and intangible".

The quality of the product is utilized in order to explain the attributes of the objects. The concept of the quality has become really important for the organizations and the consumers alike. According to Peters and Waterman (2006), the firm whose product are perceived to have a high quality is considered as a strong firm. It has become a need of the hour for the businesses to gather authentic information regarding what the consumers' perception. A gap between the quality perceptions of company and consumers can exist, for that purpose the product quality perceptions are important to study. It has been argued by Snoj *et al.*, (2004) that quality is not one thing but it is bundle of attributes which depict the benefit to the consumer and these measured by the perceived quality level. Speaking in the context of marketing, the perceived product quality is a judgement based approach of the consumers about the product.

The perceived product quality has been attributed as a high level of quality abstraction rather than a specific attribute. According to Morgan and Vorhies (2001), the perceived product quality could differ from the actual quality of the product or a service. It is evident that the quality of any packaged product is usually evaluated through the cues such as place of origin, price and other stimuli which communicate about the quality of the product. The environment of shopping is full of signals and stimuli which attract the consumers and convey messages about the quality. According to Kotler (2009), the perception is the process of selecting, organizing and interpreting the cues in order to create any meaningful depiction. According to Gregory *et al.*, (1997) perception is a process in which the individual gets an awareness and idea about the information. According to Steenkamp (1998) the quality perception starts when the consumer acquires the informational cues from the environment prior to the actual usage.

The quality attributes are defined as the tangible or intangible features of the product which cast an impact on the quality perceptions of the consumers (Kupiec & Revel, 2001). Each cue itself gives an impression which results in perception formation of the consumers (Darwar & Parker, 1994; Jacoby *et al.*, 1971; Richardson *et al.*, 1994; Zeithaml, 1988). The quality is defined as the characteristics in the product that the consumer is looking for and which is close to the perceived judgments of the consumer (Maynes, 1976). In the marketing literature the perceived quality is described on the basis of cues that a consumer gets from the retail environment. In order to understand the consumer's expectations about the quality, the manufacturer must learn about the perceptions and evaluations of the consumer (Main, 1994). According to Loebnitz and Grunert (2018) vague and nonfigurative definition of quality do not capture the consumer's mindset. Similarly, Garvin (1987) suggested that one-dimensional measures of quality do not encompass the perceptions of consumer properly. Ergin & Akhby (2014) concluded his research by

suggesting that understanding the perceptions of consumers is not an easy task and is only possible with a proper research. Moslehpour & Huyen (2014) argue that the consumer uses the cue of brand name and price differently in various product categories.

Consumers' use of brand name and price when evaluating prestige raises important issues. This effect could be the underlying reason behind any positive observed relationship between price and overall perceived quality in that product category. It is essential for the manufacturers, managers, researchers and policy makers to understand that which cue is utilized more effectively by consumer and for which product category (Ergin *et al.*, 2014). It has been concluded by Rao & Kirmani (2000) product quality is a multi-dimensional view and consumers consider that quality is encompassed by variety of factors. The findings of Akdeniz *et al.* (2013) conclude that the quality is a broad and coarse concept for representing the perceptions and judgments of the consumer accurately, hence the dimensions form better basis of understanding consumer judgments and choices. The product can be categorized into two main heads: the objective quality and the perceived quality (Brunso *et al.*, 2005). The technical, measurable and verifiable attributes of the product and processes are counted as the objective quality whereas the perceived quality also known as the subjective quality is referred as consumer's perceived values and judgments.

The perceived quality defined by Gronoos (1984) is a resultant perceived judgment from the evaluation process of consumer expectations and actual received quality. Further it is split into technical quality (what is done) with functional quality (how it is done) (Wong, 2004). Further the service quality has been explained as a form of expression equivalent to the satisfaction which results from comparison between expectations and actual performance (Parasuraman *et al.*, 1988). The product can be categorized into two main

heads: the objective quality and the perceived quality (Brunso *et al.*, 2005). The technical, measurable and verifiable attributes of the product and processes are counted as the objective quality whereas the perceived quality also known as the subjective quality is referred as consumer's perceived values and judgments.

The perceived quality of the product can be evaluated on the basis of extrinsic and intrinsic cues of the product (Olson & Jacoby, 1972; Szbillo & Jacoby, 1974; Zeithaml, 1988; Ophuis &Van Trijp, 1995; Steenkamp, 1996). The intrinsic cues are the product attributes which are physically the part of the product and cannot be altered by altering the product itself for example the color, flavor, aroma and appearance. On the other hand the extrinsic cues are the product related attributes which form quality perception but are not physically a part of the product for instance brand name, price, country of origin, precautionary labels, nutritional facts, ethical symbols and religious symbols (Brunso *et al.*, 2005).

The product oriented quality refers to all physical aspects of the product which gives an overall precise description of the product. The process oriented quality refers to the way the food has been manufactured. The quality controls refer to the fact that which standards a product needs to conform in order to be approved as quality food product. The technical specifications of the product are linked to the objective quality of the product, and the marketers aim to keep improving the products according to the perceptions of the consumers (Schnurr, 2017).

Based on the results given by the research of Grunert (1995), Steenkamp and Van Trijp (1996) conducted a study and suggested that the quality of the products should be improved according to the quality perceptions of the consumers and a regular market research should be conducted by the marketers to know the perceptions of the consumers. Poulsen *et al.*

(1996) reported that the overall quality of the product is a result of expected and experienced quality. The dimensions of the quality are categorized into three forms search, experience and credence attributes by (Darby & Karni, 1973). The search dimensions are the attributes which can be determined at the time of purchase whereas the experience attributes are only ascertained after the usage of the product. The credence attributes cannot be ascertained but consumer relies on the judgments he makes on the basis of cues (Chamhuri & Batt, 2013). The quality of the food product is perceived by the user with both the extrinsic and intrinsic attributes such as taste, appearance, proper information disclosure on the labels, and presence of logos like halal, kosher, bio degradable etc (Davidson *et al.*, 2003).

Quality is a desirable characteristic of every consumer (Canavari *et al.*, 2010). The feeling of superiority is studied as a dimension of perceived product quality by (Baek *et al.*, 2010). As the perception of an individual is the mental and personal judgment so the comprehension of every person's about product quality would be different. Since, personal preferences and product experiences of every person are exclusive hence perceptions are also different. For clearly understanding the concept of perceived quality, the understanding of quality indicators would be necessary (Baek *et al.*, 2010). Steenkamp (1990) used the term of 'quality cues' whereas Ophius and Trijp (1995) use the term 'perception'.

The product quality perceptions of the packaged food items have been studied with variety of dimensions. The relationship between food labels and their impact on quality perceptions has been investigated by (Baltas, 2001). The presence of food labels and appropriate information makes the consumers to perceive that food product is the healthy product combination and formulates higher quality perception (Baltas, 2001). Ophius and

Trijp (1995) measure perceived product quality with a dimension of healthfulness. Perceived quality is described with the dimensions of Product, Person and Place (Ophius & Trijp, 1995). The food packaging cues result in an overall judgment of healthfulness and wholesomeness about the product. (Chamhuri & Batt, 2013). The health and nutrition labels adhered to product packaging aids in the quality indicating perceptions of health and minimum risk (Baek *et al.*, 2010).

Consumers base their perceptions on the available cues they get on the point of purchase (Jacoby *et al.*, 1971; Olson & Jacoby, 1972; Steenkamp, 1990). The perceptions of food quality are formed by consumers on the basis of both sensory and non-sensory characteristics. Sensory characteristics are taste, texture, aroma and non-sensory include health, religion, ethics etc. Perceived quality seeks to capture the non-sensory characteristics as they are the core values to it (Chaudary, 2014). The quality perceptions regarding the packaged product consist of the health, safety, security, minimal risk and relative superiority over loose food product (Chamhuri & Batt, 2013). The quality cues are defined as informative stimuli that are related to the product quality and can be determined by senses before consumption (Steenkamp, 1990). Many quality cues are being thrown into the market.

The consumer will select and judge the cue related to their personal preference (Akendiz *et al.*, 2013). Krutulyte *et al.* (2009) explained that products have intrinsic quality cues which are all the inbuilt and sensory features of the product including taste, aroma etc but the extrinsic quality cues include brand name, retail name, food labels, religious logos and country of origin. The sense of superiority and prestige is felt by using packaged and branded food items (Krutulyte *et al.*, 2009). The dimension of healthfulness and perceived risk avoidance has been studies by (Wansink *et al.*, 2000). A study conducted Wansink *et*

al., (2000) reported that the nutritional and health related information present on the packaging affected the quality perception of the buyer towards the product.

Similarly MaCall and Lynn (2008) found that elaborative descriptions on the food packages affected the quality perception more positively. Varela *et al.*, (2010) state that the purchase and fondness about a certain product is mostly influenced by the intrinsic quality cues rather than explicit. In the presence of information irregularity in the markets bad quality products knock out the good quality products if the quality is not properly signaled and communicated. In this case only low quality products would be left in market for sale. The information acquired through personal experience and interaction with the product results in quality perception formation. The labels on and logos on the food packages from this point of view serve as quality cue and they have proved to be decisive in the process of quality evaluation and choice making. Simultaneous quality cues from producers, sellers and marketers create confusion (Aprile & Gallina, 2008).

2.7.2 Brand Name

Since there is an increased trend of globalization and market conditions are constantly changing, the branded items are becoming an important part of the consumption as well as marketing (Chovanová *et al.*, 2015). It is considered to be most important for the enterprises to manage their brands in order to meet the perceptions of the consumers (Chovanová *et al.*, 2015). Brand name has been defined by various researchers in variety of ways. Romano (1996) defines that "a brand is a collection of perceptions in the mind of the consumer/ a logo, corporate image, or distinct product or service identity that can become firmly rooted in the public's mind and the name by which a particular product is sold is known as brand name".

American marketing association defines brand as "A name, term, design, symbol, or any other feature that identifies one seller's good or service as distinct from those of other sellers (Mantonakis *et al.*, 2017). The legal term for brand is trademark. A brand may identify one item, a family of items, or all items of that seller. If used for the firm as a whole, the preferred term is trade name. The importance of brand has been studied by Loken *et al.* (2010). The study indicates that brand is the asset of the enterprise which yields consumer loyalty and ensures the future demand and cash flow. Similarly, Transperancy (2005) declared brand as a valuable business asset which is non-duplicable and non-substitutable. By considering the various definitions of Babcanova (2010) defined brand as "Perceptible sign of the organization and its products to the human senses, through which the customer is able to differentiate an organization and its products from others".

The brand name assists the consumers to recognize the product with much ease; hence it works as memory cue allowing the consumer to recollect the information regarding the product (Chou *et al.*, 2017). The brand is responsible for the formation of quality perceptions about the product of the certain brand and these perceptions play a crucial role in final decision making of the consumer (Winkielman *et al.*, 2000). The brand has been studied a major marketing tool by various researchers. According to Chadwick & Holt (2015) brand gives consumer an additional value and prestige and marketers use it as a tool for gaining competitive advantage.

By looking at scenario of Pakistani consumer behaviour regarding the brand preferences, the food brands are considered to be higher in quality then loose food items (Akhtar *et al.*, 2016). According to Verhoef *et al.* (2002), the greater the difference between the perceived quality of branded food items and loose food items, the higher would be the preference of consumer to buy branded food. The gradual increase in the purchase power is enhancing

the consumption of branded packaged products is increasing in Pakistan (Khan & Nasr, 2010). Although, there is an increasing trend of branded packaged products, but there is a lack of comprehensive study in Pakistani consumer market (Zeb *et al.*, 2011). Additionally, the need of investigating the impact of brand name on food package relative to the other food packaging cues has been stressed upon (Grewal *et al.*, 2011).

The relationship between the brand and the emotional perceptions has been investigated by Hislop (2006) in which he reported consumer develops an emotional affiliation regarding the quality of the brand. More recently, the research on brands has revealed that the consumer not only perceive the quality of the product by the name of the brand but relate it to the quality (Kotler *et al.*, 2013). The findings of Kotler are in line with the findings of Aggarwal (2004) which report that consumer develop relationship with the brand as they develop relations with each other. Shende (2014) reported that only with the sheer understanding of consumer's perceptions the manufacturers can meet the needs of customers. In order to live up to the expectations of consumers in the super saturated market with the brands, it has become essential for the companies to make their consumers perceive their product to be superior (Shende, 2014). In the literature there are previous attempts of investigating the impact of brand as a quality cue for the consumers by the researchers. For example, in 1989 Rao & Monroe conducted an analysis to investigate the influence of the cues of price, brand name and store name on the quality perceptions of consumers. The impact of brand name and price were found to be significant whereas store name was not significant. The effect of brand name was greater as compared to price.

The impact of price discounts, store name and brand name on quality perceptions was further investigated by Grewal *et al.* (1998) in which he reported the significant relations between the brand name and price discounts with the quality perception. The positive quality perception ultimately leads to willingness to buy. In the study conducted by Jacoby *et al.* (1971) he investigated the impact of brand on perceived quality moderated by the consumer knowledge. The study revealed that if the consumer has a positive previous knowledge then the impact of brand name on perceived quality is more. On the similar grounds, Dodds *et al.* (1991) studied the nexus of brand name with quality perceptions moderated by consumer knowledge. Dodds *et al.* (1991) concluded that the favorable brand name positively influences the perceptions of quality and value and increases the willingness to buy. The knowledge possessed by the consumer helps to increase the positive perceptions about the brand.

The impact of brand name relative to other food packaging cues needs to be determined further (Grewal *et al.*, 2011). The research on the impact of brand name is rare in Asian region specifically Pakistan is low. As the urbanization and female literacy rate in increasing there is an increased trend regarding branded food consumption is reported. Hence it can be argued that it is useful to conduct this type of consumer which will be an addition to the overall empirical literature as well as specifically in developing countries. To understand what perceived quality is, it is important to first identify the quality indicators that surround the concept of perceived quality. Steenkamp (1990) used the term quality cues, while Ophuis and Trijp (1995) used the term perception. Kirmani and Rao (2000) stated that in the markets the consumers rely on the product cues to perceive about the quality if the true quality is not readily observable. The consumer is faced with the multiple cues and according to signaling theory, the consumer prioritizes the quality indicating cues to judge about the quality of the product (Diallo & Seck, 2017).

The study conducted by Loken *et al.* (2010) in determining the impact of brand name on the product quality perception, it is disclosed that the brand name effects the product quality perceptions positively. Furthermore, the study conducted by Transperancy (2005) on understanding the connection of brand name discovered that product quality perception has a significant nexus with the brand name. In a study by Babcanova (2010) on understanding the impact of brand name awareness confirms that disclosure of proper information has a positive effect on the individual's quality perceptions. In another investigation by Chovanova (2015) it is revealed that perceptions are influenced significantly by the food labels on packaging. Based on the theoretical framework, the name of brand on the food packaging tends to create an impact on the minds of consumers regarding the enclosed product. There are numerous studies which have found a significant relationship between brand name and product quality perception (Loken *et al.*, 2010; Transperancy, 2005; Babcanova, 2010; Winkielman *et al.*, 2000).

The objective of this research is to check the extant of relationship between brand name and food quality perception. Consumer knowledge is the modifying variable in this relationship. According to Veale *et al.* (2009) the consumer who have knowledge and awareness tend have positive perception about the brand. There is no comprehensive study which has tested the relation of brand name as quality cue with the quality perception in Pakistani context. Chavnova *et al.* (2015) has reported a significant relation between brand name and product quality perception. It has been reported by Shehzad *et al.* (2014) that brand name is critical for the consumers who are conscious about the sense of prestige. A study conducted in Italy by Mascarello *et al.* (2015) reported that there a positive nexus between brand name and product quality perception.

It has been argued by Ismail *et al.* (2012) that brand name not only influences the quality perceptions but also sways brand purchase. It is asserted by Holt (2002) that consuming branded food items provides the user with a sense of prestige. A significant relationship was reported between the brand name and the willingness to pay. A cross country examination was conducted by Zeb *et al.* (2011) where mixed responses were reported. Grewal *et al.* (2011) found a direct significant nexus between brand name and social acceptance. Shehzad *et al.* (2014) argues that consumers in developing countries are very less brand conscious and they prefer the cue of price over brand name. More recently, Mascarello *et al.* (2015) reported that consumer evaluates the product of a reliable brand positively.

It has been firmly argued by Grewal *et al.* (2011) that branded food products have consistent quality. Chadwick & Holt (2015) reported a positive relation between brand name and perceived quality in American market. Similarly, the effect of branded products on taste perceptions has been studied in Italian olive oil market where a positive relationship has been reported. The effect of brand name as an extrinsic cue was tested for cheese products in Australian market by Veale *et al.* (2009) in which branded cheese was perceived to be of superior in quality and taste. Grewal *et al.* (2011) conducted a study on branded bicycles in American buyers. It is concluded that branded bicycles are considered more reliable and safer to ride. Chovanová *et al.* (2015) found the motives behind Russian consumers in buying the branded products. The results report that quality, reliability, safety and prestige are the most important motivations behind brand purchase. Only few studies have been conducted in Pakistani market. Zeb *et al.* (2011) studied impact of branded apparels on Pakistani female consumers. It has been concluded that branded fashion apparels are considered to be much durable. Shehzad *et al.* (2014) investigated about the quality perceptions of branded cars in Pakistan and concluded a positive relation between

brand and quality of the car. Due to very less findings in Pakistani market, it is justified to carry out the study to fill out this empirical gap in the literature.

It has been firmly argued by Grewal *et al.* (2011) that branded food products have consistent quality. Chadwick & Holt (2015) reported a positive relation between brand name and perceived quality in American market. Similarly, the effect of branded products on taste perceptions has been studied in Italian olive oil market where a positive relationship has been reported. The effect of brand name as an extrinsic cue was tested for cheese products in Australian market by Veale and Quester (2009) in which branded cheese was perceived to be of superior in quality and taste.

The value of the product and brand loyalty is summed up to accomplish the construct of brand name (Shehzad *et al.*, 2014). The marketers consider the brand name as an assurance of quality for the existing and upcoming products (Shehzad *et al.*, 2014). Furthermore Naem (2014) said that brand is important tool that helps out to corporations to receive a competitive advantage. Brand name is multidimensional structure with customer opinion. Brand assets with distinguish quality and has a progressive and direct link with customer purchasing behavior. Shehzad *et al.* (2014) mentioned that the perceptions of persistent and continuous quality along with reliability are associated with the branded goods. Similarly, Vigneron and Johnson (2017) revealed that the name of brand assures the consumer about the pertinent and persistent quality that is expected by the consumer.

The cue of the brand name has been investigated on the basis of various dimensions. The brand name is likely to build up a strong brand image in the minds of consumers. On the other hand, the construct of brand name is studied on the dimensional basis of brand identity. The marketers struggle hard to develop strong brand identity by continuous

marketing campaigns reinforcing the brand name for the consumers (Shehzad *et al.*, 2014). The brand name construct has been investigated by Mishra *et al.* (2010) where the pleasure seeking behaviour and sense of being fashionable was studied as the aspects of brand name. It is argued by Akdeniz and Calantone (2017) that the customers recognize the quality of the product by name of the brand. The people who are trying to get a peer acceptance try to use or consumer the branded goods with higher prices (Akdeniz & Calantone, 2017).

H_1: Brand name has a significant impact on the product quality perception.

2.7.3 Country of Origin

Not long ago, the domestic markets were self-sufficient and there were no foreign competitors. The growing trend of globalization has circulated the products. The foreign products are entering into the markets which not only give competition to the domestic products also increases the range of consumers to choose from (Kalicharan, 2014). With the increased internationalization has made country of origin as an important variable to study. The findings of this study will enable the enterprises to plan better about their products and devise unique marketing strategies (Amine *et al.*, 2005). From past few decades, the effect of country of origin on consumer's quality perception has taken a vivid place in consumer behavior studies.

The awareness regarding country of origin increased when the country of origin labelling was legally mandated (Bandyopadhyay & Banerjee, 2002). Country of origin can be defined as "*impact of the country of manufacturing which can cast positive or negative perception about the* product" (Bandyopadhyay & Banerjee, 2002). Anwar *et al.* (2013) explain that different countries of the world have different specialties. These countries are called country of origin. Parkvithee and Miranda (2012) argue that consumers care about

the origin country of the product. The country of origin is referred as "*of all descriptive, inferential and informational beliefs about a particular country of the product*" (Martin & Eroglu, 1993). According to Janda & Rao (1997) country of origin is define as "*the overall perception [that] consumers form of products from a particular country, based on their prior perceptions of the country's production and marketing strengths and weaknesses*". Further, the definition of country of origin has been presented by Ahmed and d'Astous (1996) "*the country where corporate headquarters of the product or brand is situated, also it can be inferred from the country of assembly or manufacture, and the country of product design*".

Before employing country of origin as an extrinsic cue in the studies, customer used price and brand names to evaluate the quality extensively till 1960's. The preliminary studies on country of origin started to capture attention by the researchers in early 1960's (Sadiq, 2005). The investigation on this area stared to get popular in 1965 in Finland and Guatemala. In this era scholars asserted that country of origin label has an impact on the quality perceptions (Zbib *et al.*, 2010). In late 1960's and early 1970's country of origin was paid much attention in the field of consumer behaviour (Chen, 2004). The country of origin was also used as a marketing and positioning strategy (Pharr, 2005). The era of 1970 country of origin was employed as product evaluation attribute and was enlisted as an external cue (Thakor & Lavack, 2003). Furthermore, the interest of the importers and exporters amplified in knowing the country of origin of the product (Gao & Knight, 2007; Miyazaki *et al*, 2005; Hsieh, 2004).

More recent, studies have also employed country of origin as a focal point of their research (Lindblom *et al.*, 2018; Suter *et al.*, 2018). Bandyopadhyay and Banerjee (2002) country of origin is a benchmark of the country's products and country can relish a wide range of the consumer confidence in perceived product quality. It has been argued by Pecotich & Ward (2007) country of origin has broad effects on the behaviour of the consumer and more specifically to the perceptions of the quality. O'Cass & Lim (2002) asserted that country of origin is vital in evaluating the product quality. The perceptions of the quality are majorly based on the attributes of the product that are brand name, labelling and add image but country of origin is major quality factor for the imported products (Bandyopadhyay & Banerjee, 2002). Country of origin as a quality cue is important in both consumable and durable products (Aiello *et al.*, 2009). According to Liu & Johnson (2005) the typecast of the country impacts the perceptions of quality and the label of country of origin spontaneously triggers the process of evaluation.

Furthermore, discussing about the scenario of country of origin effect in Pakistani market, consumers base their opinions on the country of origin image of the product. Country of origin is an effective stimulus which impacts the consumer quality judgments about the product (Tran & Fabrize, 2013). A strong and positive country of origin image not only contributes to the image of the brand but also promotes the positive country image (Chattalas *et al.*, 2008). The Pakistani elite class consumers take country of origin into consideration while going for any purchase, with reference to the extrinsic cues like price, brand name and product quality (Khan & Bamber, 2008).

The findings by Khan and Bamber (2008) concluded that the country of origin effect has a positive association with product quality judgments of Pakistani consumers and their buying decisions. The literature on the Pakistani consumers regarding impact of country of

origin on quality perception is scarce (Saeed *et al.*, 2013). By investigating the extant of relationship of country of origin with the product quality perception along with other food packaging cues would be an important theoretical contribution to literature (Ahmed, 2008).

The recent academic debates are focusing on the expansion of the concept of country of origin (Carsana *et al.*, 2017; Hsu *et al.*, 2017). The term country of origin is now combined with region of origin and province of origin (Bruwer & House, 2003). The interest in this level of geographic detail lies in the greater homogeneity of a region compared to the whole country, which can provide a more consistent image (Bruwer & House, 2003; van Ittersum *et al.*, 2003; Chamorro *et al.*, 2015). According to Newman *et al.* (2014) the country of origin casts an impact on the minds of consumers in the context of food products. It is argued by Schnettler *et al.* (2008) that country of origin labels are popularly known as "Made In" labels.

Although, the concept of country of origin is well established in western market with the focus on consumer's quality perceptions Pappu *et al.* (2005) there is a need to investigate this concept in other consumer markets with different sample (Luceri *et al.*, 2016). It has been suggested by Andéhn *et al.* (2016) that the future researches should employ country of origin for number of different products categories like packaged food items and in variety of cultures. The future researches should also include different moderating variables to understand the effect of country of origin on quality perception (Andéhn *et al.*, 2016). Taking the suggestion of Andéhn *et al.* (2016) country of origin is studied in Pakistani context with taking consumer knowledge as a moderator.

The significant impact of country of origin labels on product quality perception has been reported by numerous studies (Sanz *et al.*, 2011; Menapace *et al.*, 2011; Bernabeu *et al.*, 2010). In the study conducted by Samiee *et al.* (2005) the positive perceptions about the quality of the product are formed when origin country has an expertise over the product. Another study revealed that country of origin has an impression on the minds of consumer regarding the quality of the product (Bloemer *et al.*, 2009). The prior studies have verified the relationship between country of origin label and the product quality perceptions (Kalicharan, 2014; Zbib *et al.*, 2010; Hsieh, 2004). On the similar grounds, the affiliation has reported significant results in various other studies conducted by (Andehn *et al.*, 2016).The country of origin labels displayed on the food/product packages to communicate the source. Various studies have shown the relationship that country of origin labels cast a positive impact on the perceptions of quality in the minds of consumers (Diamantopoulos & Zeugner, 2010; Rezvani *et al.*, 2012; Pappu *et al.*, 2006).

This study aims to test the relationship between country of origin and product quality perception. The relationship is further testable with the moderating role of consumer knowledge. The relative influence of country of origin along with other food packaging cues would be studied in this particular study. The country of origin country of origin has a direct and significant relationship with the consumer's attitude towards the product and intention to purchase (Hsieh, 2004). The country of origin of the product has a direct relationship with the perceived quality and consumer purchase intention (Diamantopoulos & Zeugner, 2010). The study conducted by Rezvani *et al.* (2012) reported that there exists a direct influence of country of origin on the perceived quality and purchase intentions. It has been observed by Pappu *et al.* (2006) country of origin has a varied level of influence on the quality perceptions of the consumers.

Pappu *et al.* (2006) reported that the brands from Finland are perceived to be higher in quality then brands from Mexico. The product from a specific origin is perceived to be superior in quality as compared to other products (Aaker, 1991). According to Rezvani *et al.* (2012) along with other product attributes country of origin is found to influence the attitudes and perceptions of the consumer. A direct linkage has been reported between the country of origin and product quality perception (Wang *et al.*, 2012).

Elliot and Cameron (1994) have described that country of origin is the degree to which the place of manufacturing creates an impact on the consumer mind regarding quality. According to Brody (2016) country of origin is one of the significant factors that create an impact on purchase intention. The ability of extrinsic cues namely- brand name, country of origin and labelling have proven persuasion ability. Within the relationship of country of origin and perceive quality, product categories are a significant moderator (Roth & Romeao, 1992). Diamantopoulos *et al.* (2011) demonstrated a positive relationship between country of origin and product quality perception. Similarly, Andéhn *et al.* (2016) reported similar positive results. O'Shaughnessy and O'Shaughnessy (2000) studied country of origin with managerial relevance and report that product category is an important component. Overall, country of origin can be theorized as quality indicator. It is considered to be an important factor to explain the perceptions of the consumers regarding the quality of the product. According to Andéhn *et al.* (2016) further study on country of origin should be conducted. The effect of country of origin needs to be expanded to other product categories like FMCG (Qasem *et al.* 2016). The psychological impact of country of origin (perceptions and motivations) is required to be studied further to develop appropriate marketing strategies for products (Qasem *et al.*, 2016).

Within the relationship of country of origin and perceive product quality, the superiority has been studies as a dimension (Roth & Romeao, 1992). Diamantopoulos *et al.* (2010) demonstrated a perceived superior quality as a dimension. Similarly, Andéhn *et al.* (2016) reported similar positive results. O'Shaughnessy and O'Shaughnessy (2000) studied country of origin with managerial relevance and report that product category is an important component. Overall, country of origin can be theorized as quality indicator. It is considered to be an important factor to explain the perceptions of the consumers regarding the quality of the product. There are certain previous attempts in literature in which dimensions of the construct of country of origin have been studied.

Country of origin comprises of a significant dimension of sophistication and peer acceptance which help in shaping the perceptions of the consumers regarding the product quality (Papadopoulos & Heslop, 2002). Country of origin label casts a summary effect and halo effect on the product evaluation (Afifah *et al.*, 2017). The construct has been studied with the dimension of positive product evaluation by Afifah *et al.* (2017) which states that the halo effect is produced when consumer in unaware of the product of the country and summary effect is produced when product and the country are both known. Rashid (2017) argues that the beliefs about the product are formed on the basis of the country image in halo effect on the other hand country image is formed on the basis of product attributes and characteristics. Rashid (2017) utilized country of origin as an extrinsic quality cue which can shape the perceptions of the consumer. Furthermore, Thakor and Lavack (2003) conducted a study to show the dimensions of sophistication and superior quality perceptions of the consumers of developed countries and newly industrialized markets.

Taking into consideration of the previous studies that have proved the positive effect of country of origin on perceived product quality (Kalicharan, 2014; Zbib *et al.*, 2010; Hsich, 2004; Andehn & Decosta, 2014; Diamantopoulos & Zeugner, 2010; Rezvani *et al.*, 2012; Pappu *et al.*, 2006), therefore, this study hypothesizes that:

H_2: Country of origin label has a significant impact on product quality perception.

2.7.4 Price

According to Grewal *et al.* (1988) consumers infer quality from the price being displayed on the product. Grewal *et al.* (1988) studied the impact of price along with the cue of store name and brand name on quality perceptions of the consumer. A positive relationship between price and perceived quality has been reported. It has been proposed by Cristo (2017) that the price as a cue is of central importance which can be used reciprocally to infer the quality of the product.

Kastanakis and Balabanis (2012) refers that price is an indicator of the overall excellence of the product. The price cue assists in the overall quality judgment of the product. Consistent with the findings of Grewal *et al.* (1988) it has been argued by Kluge and Fassnacht (2014) that price can be used to compare the products and make a judgment regarding the quality of the product. Price plays a vital role in the business of the packaged foods (Silverstein & Fiske, 2003). It is stressed by Quintavalle (2012) that price has a potential positive impact on the consumable goods. Riley *et al.* (2013) as well as Kluge & Fassnacht (2014) state that price display has a strong influence over the perceptions and attitudes of the consumer. A positive relationship between price tag and perceived product quality has been reported by (Dall'Olmo *et al.*, 2013).

The relation between price cue and the quality perception is statistically significant (Fraccaro & Macé, 2014). Similar, kind of findings have been reported by (Rao & Monroe, 1989). Many scholars have reported a significant relationship of price cue with product quality perception (Sinha & Batra 1999; Xia *et al.*, 2004; Campbell 2007; Bolton *et al.*, 2010). It has been suggested by Campbell (2007) that price should be fair for the positive evaluation of the product, negative consequences could occur with unfair pricing which could tarnish the brand image (Homburg *et al.*, 2005). Keuster *et al.* (2014) suggests that the impact of price on quality perceptions in newly launched products is significant, hence more product categories should be selected like food items and vehicles to test the relationship. The link between price and perceived quality should be tested in various markets to check its generalizability (Keuster *et al.*, 2014). Previous studies have established that consumer tends to have confidence in price of the packaged food product as quality cue (Chan *et al.*, 2009). Looking at the Pakistani context there is very less research on packaged food price and perceived product quality (Joiya & Shehazad, 2013). According to the results of Zaidi and Muhammad (2012) price is a major indicator of quality in Pakistani consumer purchase cycle. The perception of food quality by looking at the price is influenced by both rational and psychological factors.

Kuester *et al.* (2014) suggested that the nexus of price and packaged food product should be tested in various markets to check its generalizability. By considering the suggestion of Keuster *et al.* (2014) investigating the existence and strength of the relationship between price and product quality perception would be an important contribution. Signaling theory also proposes that extrinsic cues are the major indicators of quality when it is not possible for the consumer to assess the quality of the product directly. The effect of price has been validated in various studies of consumer behavior. A study conducted by Kostyra *et al.* (2016) has shown that consumers utilize price as a major quality indicating cue when

buying. Another investigation carried out Flach (2016) proved that price has a significant impact on the perceived product quality. Numerous studies have confirmed the relationship that the price tag is a strong cue for judging the quality of the product prior to the usage (Kostyra *et al.*, 2016: Flach, 2016; Mathe *et al.*, 2016). Some other studies have also proved that price has a strong impact on the product quality perceptions (Ghasemi *et al.*, 2016; Suryonaningsih *et al.*, 2016). The cue of price has been recognized to play a substantial role in formation of the product quality perceptions. The study by Parguel *et al.* (2016) has also confirmed that the cue of price has positive effect on perceived product quality.

Past studies have proved the relationship between the price and product perceived quality. The factor of the price tag on food package casts a psychological impact of superior quality. Brucks *et al.* (2000) reported a significant relationship between price and product quality perception. Similarly, Widyastuti and Said (2017) demonstrate a significant nexus between price and the product quality perception. Likewise, Grewal (1998) argue that the price is widely used as a quality indictor by the consumer. Shirai (2017), report that the price is an indicator of quality and instills a sense of prestige. Truong *et al.* (2009) confirm price helps attain a certain level of prestige. Kluge and Fassnacht (2014) tested the relationship between price and brand image and found a significant relationship. It is asserted by Audrin *et al.* (2017) that price display impacts the quality perceptions.

This study aims to examine the extent of relationship between cue of price and the product quality perception. The price factor impacts the perceptions of the consumers directly. Consumer knowledge will is used as a modifying factor in this current study. Rao & Monroe (1989) postulate that price is a strong indicator for evaluating the quality of the product. Previous literature has shown mixed findings regarding the impact of price on the quality perception. Brucks and Zeithmal (2000) found a positive relationship between price

and product quality perception. Grewal (2011) argue that the price is widely used as a quality indictor by the consumer. Miyazaki *et al.* (2005) as well as Monroe (2012), report that the price is an indicator of quality and instills a sense of prestige. Truong & al. (2009) confirm price helps attain a certain level of prestige. Kluge and Fassnacht (2014) tested the relationship between price and brand image and found a significant relationship. It is asserted by Doss & Robinson (2013) that price display impacts the quality perceptions.

The study conducted by Rao & Monroe (1989) report that the cue of the price is the significant. Consumers deduce the quality of the products from the price (Parguel *et al.*, 2014). Vigneron and Johnson (2004) stated that consumers deduce the idea of quality from the price and compare the price with current product or price in memory. As the literature establishes that status of price as quality cue has been investigated in western arena mostly, hence there is a gap in empirical literature for obtaining the results from other emerging markets.

Riley *et al.* (2004) argued that the price of the product is a multi- dimensional construct. The consumer perceives the quality of the product and brand image through the price display (Riley *et al.*, 2004). In the study of Truong *et al.* (2009) perceived higher quality of the product was reported to be an important and significant dimension among the other cues of brand name and store name. Riley *et al.* (2004) used the cue of price to measure the quality perceptions. Contrasting evidence has been presented by Fassnacht *et al.* (2012) in which it is mentioned that the consumers perceive that they are offered value against the higher price they pay for the product. Kapferer (2012) suggest that brands should keep an optimal price to keep their product sacred as well as increase its purchase. Luxury brands should keep their prices higher to endow the consumer with the luxurious effects of the product (Kapferer, 2012). According to Dall'Olmo Riley *et al.* (2013) price level is an

empirical variable which can be used to measure the perceptions and attitudes of the consumer towards product. Therefore, the third hypothesis for this study can be inferred as:

H_3: Price has a significant impact on product perceived quality.

2.7.5 Nutritional Label

The nutritional labels are regarded as the major source of information for the consumers to evaluate the product quality (Liu *et al.*, 2017). Darkwa (2014) clearly argues that the nutritional labels play a vital role in consumer decision making for the healthier choices and assist them to compare the nutrients across the various food brands. The product packaging involves the production of food wrappers and containers for the item (Keller, 2001). The packaging along with the function of product protection now-a-days is considered as a major marketing tool (Barreiro *et al.*, 2010). It serves commercial purposes of marketing communication about the usage as well as nutritional information (Smith & Taylor, 2004; Rundh, 2013; Kotler *et al.*, 2009). The nutritional labels have a salient relationship with the level of trust of the consumers (Kroonenberg, 2012). The nutritional information is a major factor considered by consumers to judge quality (Silayoi & Speece, 2004). In an investigation conducted by Walters and Long (2012) it argued that quality perception can enhance the chance of product purchase and also increases the credibility of the product. Information on the product could help consumers in making their decisions about product choice.

The research on the nutritional labels and food packaging emerged in 21st century and more attention was given to this field (Hulshof *et al.*, 2003). Manell *et al.* (2006) investigated the impact of food packaging information on the product quality. In his study Silvestri *et al.* (2017) revealed that consumers associate nutritional information on the food packaging

and quality of the product positively. Cognitive concepts were also applied to food labelling studies by various researchers where the discipline of consumer behaviour was studied in combination with disciple of psychology (Higginson *et al.*, 2002; Ollberding *et al.*, 2010; Kemp *et al.*, 2011). The investigation on the nutritional labels commenced in the era of 1980's (Payne, 1982). Some literature also emerged in that era in which it was clearly established that nutritional label serves as a nutrient guide for the consumer and cast an impact regarding the quality of product (Petrucilli, 1996). The food packaging designing and the proper placement of the labels and logos was considered to be an important challenge for the marketers in that era (Moorthy *et al.*, 2005). These food labels and symbols are quality cues and they are not only considered but relied upon by the consumers (Wilkie & Dickson, 1985; Hoyer, 1984). Further investigation by Wills *et al.* (2009) revealed that the usage of nutritional labels is impacted by the thinking and previous beliefs of consumers. If there is a belief held by consumer that nutritional information is no use for them, they are less likely to refer to the labels. In the past arena of research by Feick, *et al.* (1986) is has been identified that the factors of information overload, less knowledge, limited readability and font size of labels could be the major reasons of non-usage of the nutritional label (Guthrie *et al.*, 1995).

The development in the field of nutritional labelling continued. The nutritional label was considered to be the cue which the consumer see and sense from the product (Shepherd *et al*, 1991). The perceptions made on the basis of quality cues develop the pathway to the actual purchase of the product by the consumer (Tourila, 1994). The individual characteristics including age, gender, income level and education cast an impact on the information searching behaviour of the consumers (Tourila& Pangborn, 1988). As established by Mitchell and Boustani (1993), food labels are consulted by consumers as a risk reducing strategy. Schultz (1975) reported that older age individuals are more reliant

on the nutritional fact information as compared to younger consumers even though they have less capacity to process the information.

The research on the nutritional labels and food packaging emerged in 21st century and more attention was given to this field (Hulshof *et al.*, 2003). Mannell *et al.* (2006) investigated the impact of food packaging information on the product quality. In his study Mannell *et al.* (2016) revealed that consumers associate nutritional information on the food packaging and quality of the product positively. Cognitive concepts were also applied to food labelling studies by various researchers where the discipline of consumer behaviour was studied in combination with disciple of psychology (Higginson *et al.*, 2002; Ollberding *et al.*, 2010; Kemp *et al.*, 2011). The world health institutions attempted to study the life styles of the consumers to develop international health strategies. Unhealthy lifestyles with a greater calorie, less fiber intake and limited physical activity are sources of major concerns now days. In response to these increasing health risks in developed countries government and international health institutions have developed strategies to address these problems.

A study done by Wills *et al.* (2009) concluded that the nutritional information being displayed on the packaging casts large impact on the consumer's diet patterns, lifestyle and perception formation. Healthfulness and perception about the taste of the food is judged by the nutritional evidence. In an investigation carried out by Wills *et al.* (2009) it is revealed that consumers want nutritional fact information on the food labels but their understanding about how to interpret that information is low. Geyskens *et al.* (2007) considered unconscious processing of packaging cues which might be involved in this process of food quality perception. Geyskens *et al.* (2007) investigated the impact of pictorial nutritional information on the product quality perception and reported a positive association.

Further development in the field of food labelling commenced when labels were considered to be quality cues. Ares and Deliza (2010) suggested that nutritional labelling as food packaging cue is used by consumer to assess product quality. Unconscious processing is involved in the quality perception formation by utilizing nutritional labelling as a food packaging cue (Oliveria *et al.*, 2017). The nutritional labelling is a cue on the food packaging used by consumer brain to make inferences about the healthiness and quality of the particular product (Roseli *et al.*, 2018). Accurate and proper information on the packaging helps in the intention formation of the consumers by fulfilling their need of information seeking for the nutritional information (Bernabeu *et al.*, 2018). The labelling of nutritional fact is a communication tool which gives the information about the facts of the food and it provides opportunities for better and healthier choices (Zaidi & Muhammad, 2012).

Hawkes *et al.*, (2015) argued that nutrition labelling is no longer perceived solely as an information tool to ensure honest commerce, but as a health promotion tool and, for the global food industry, a marketing tool. Marketers now a days use consumer senses to promote and market their products (Hulte´n *et al.*, 2009). Food packaging elements act as cues for the particular product. These elements are targeted towards hearing, sight, smell, taste and feel (Lindstrom, 2005; Krishna, 2010). Krishna (2010) stated that marketing with food packaging is becoming a very useful marketing strategy for the food companies now-a-days. Sensory cues like informational and attractive food labels and descriptive pictures or nice smell attract the consumer and influence the perception process positively (Krishna, 2010).

Furthermore, nutritional labels on the food packages are very obvious and influential in perception formation about what would be the eating experience and quality of the food they are buying (Lindstorm, 2005). Nutritional labelling is a great mean to provide information about the nutrition content and it serves as an external influence for the consumer for quality perception (Dimara & Skuras, 2005). Brandt *et al.* (2016) extended nutritional labelling research from consumer to manufacturers. These pictorial cues can legitimize the consumption pattern of the consumers. These cues indirectly give an authority to the manufacturer to regulate the consumption patterns and perceptual process of the consumer (Brandt *et al.*, 2016). There is a large amount of studies and data on the modulation of behaviors caused by various food labels (Aschemann-Witzel *et al.*, 2013; Borgmeier & Westenhoefer, 2009). Certain studies have also reported that nutritional labels have neutral or even a negative impact on the consumer perceptions and can be considered as non- educative mean of information (Campos *et al.*, 2011; Etilé *et al.*, 2011). Crowded food labels have a negative impact on the consumers (Grunert *et al.*, 2010; Wansink, 2003).

The research on the nutritional labelling and its cognitive impact on the food quality perception have been rigorously studied in US, UK and European countries (Campos *et al.*, 2011; Cowburn & Stockley, 2005; Kroonenberg-Vyth, 2012; Sharma *et al.*, 2011). Although there are number of studies in European consumer market (e.g. Legault *et al.*, 2004; Cowburn & Stockley, 2005; Grunert &Wills, 2007; Bonsmann *et al.*, 2010; Kroonenberg-Vyth, 2012; Sharma *et al.*, 2011; Brand *et al.*, 2017). The scope of the nutritional label research should be expanded in multiple cultural consumer markets with combination of extrinsic cues (Piqueras-Fiszman & Spence 2015; Gemma, 2016). According to the suggestions, conducting this particular study will fill out the gap in literature by gathering data from Pakistani market.

The nutritional labels on the food packages are utilized by the consumers as an extrinsic cue to assess the quality of the product (Fenko *et al.*, 2016). According to signaling theory the cues and stimuli present in the shopping environment are responsible for the perceptions of the consumers (Talati *et al.*, 2016). Particularly, certain empirical studies have found a connection between the nutritional labels and perceived product quality (Darkwa, 2014; Rundh, 2013; Walters & Long 2012). Other studies have proved that nutritional labels cast a positive impact on the perceived product quality (Grunert *et al.*, 2012; Bialkova *et al.*, 2016). Specifically, the studies have verified that the food labels on the food packages impact product quality perceptions (Oliveria *et al.*, 2017). Hawkes (2015) accurate and proper information on the packaging helps in the intention formation of the consumers by fulfilling their need of information seeking for the nutritional information.

In their study on the impact of intrinsic and extrinsic cues on quality perceptions Enneking *et al.* (2007) reported nutritional label are used as quality indicators by the consumer. Colby *et al.* (2010) studied the impact of nutritional fact panel on the perception of healthfulness, found a positive relationship. A similar finding was reported by Satia *et al.* (2005) on nexus between nutritional labels and the perceptions of health. Carrillo *et al.* (2012) studied the impact of food packaging nutritional information and sensory characteristics on the quality perception of enriched biscuits. This research reported a significant relation among the nutritional information and the quality if enriched biscuits.

Walters and Long (2012) conducted a study on the effect of extrinsic and intrinsic food packaging cues on the quality perception among females. Nutritional label is a widely used extrinsic cue for determining the healthfulness of the food product (Walters & Long, 2006). The consumer with higher level of nutritional knowledge tends to utilize nutritional label

effectively (Drichoutis *et al.*, 2011). Murniece and Straumite (2014) studied the relationship of nutritional labels on bread produced in Latvia and showed a positive relationship. Ghani and Kamal (2010) investigated the nexus between the nutritional labels and impulse buying and reported a significant relationship. Kauppinen-Ra¨isa¨nen *et al.* (2012) suggested that nutritional labels are one of the important verbal cues which are utilized by the consumer to form the quality perceptions. Furthermore, Silayoi and Speece (2007) argue that consumers who do not possess the prior knowledge rely on the labelling cues more to make an appropriate decision.

A study by Mohd *et al.* (2010) concluded that nutritional label impacts the food quality perceptions. According to Becker *et al.* (2015) posited that the nutritional labels present on the food packages lead to positive perceptual behaviour. Hawley *et al.* (2012) found that positive quality perception of the food is a consequence of the comprehensive nutritional labelling. Hodgkins *et al.* (2012) emphasized on the vitality of the nutritional labels in creating favorable quality perceptions about the food quality. Venter *et al.* (2011) as well as Honea and Horskey (2012) suggested that little attention has been paid to the research on the impression food packaging cues on the food quality perception and brand image cross culturally. This particular study aims to explore the how the nutritional label as a food packaging cue effect the quality perceptions about the product. The impact of nutritional label along with other food labels needs to be investigated in future (Daria *et al.*, 2013). As it is evident from the literature, that effect of the packaging cues on food-product quality perceptions remains a researchable area in Asian context. Conducting this study in Pakistani market can offer variety of useful insights to the manufacturing firms to enhance the inclinations of consumers towards their product by enhancing the use of labels as a food packaging cue.

Nutritional label is a widely used extrinsic cue for determining the healthfulness of the food product (Walters & Long, 2012). The consumer with higher level of nutritional knowledge tends to utilize nutritional label effectively (Drichoutis *et al.*, 2011). Murniece and Straumite (2014) studied the relationship of nutritional labels on bread produced in Latvia and showed a positive relationship. Ghani and Kamal (2010) investigated the nexus between the nutritional labels and impulse buying and reported a significant relationship. Kauppinen *et al.* (2012) suggested that nutritional labels are one of the important verbal cues which are utilized by the consumer to form the quality perceptions.

Front of the pack nutrient labels serve as a quality cue which is used by the consumers to perceive about the taste and healthfulness of the packaged food (Howlett *et al.*, 2015). Sharma *et al.* (2011) argued that the nutritional labels are utilized by consumers not only for the purchase decision but majorly to satisfy to information need for the particular food item. Similarly, Verbeke (2006) stated that nutritional labels are a powerful quality cue for the consumers if presented and displayed in proper way on the package. Kant and Graubard (2004) reported a direct positive relationship between nutritional labels, healthy food choice and healthy lifestyle.

Hence, the fourth hypothesis which this study presents that

H_4: Nutritional label casts a significant impact on product perceived quality.

2.7.6 Precautionary Labelling

As the production and processing of the food have advanced the consumers are becoming more quality conscious (Schlosser, 2002). They want to know what they are consuming regarding pathogens, allergies, additives, condiments etc. they want wealth of information on the food labels (Davis, 2000). The presence of labels on the packaged foods is helpful in determining nutritional value and ingredients of food (Higginson *et al.*, 2002). The food labels also provide indication for abstinence from certain foods due to religious and ethical issue or the allergy reasons. The precautionary labels are also known as may contain labelling.

They are displayed by manufacturers and retailers as a mean of providing information. They are displayed to communicate the presence of any ingredient which could be intolerant with any consumer (Hourihane *et al.*, 1997). Although in the studies regarding precautionary labelling lack of awareness has been reported but the consumers are happy on the overall amount of information related to the ingredients, allergy and production methods (Cornelisse *et al.*, 2008; Joshi *et al.*, 2002; Miles *et al.*, 2005; Paasche- Orlow *et al.*, 2005). Although in the studies regarding precautionary labelling lack of awareness has been reported but the consumers are happy on the overall amount of information related to the ingredients, allergy and production methods (Cornelisse *et al.*, 2007; Joshi *et al.*, 2002; Mills *et al.*, 2005; Paasche- Orlow *et al.*, 2005). In the study conducted by Joshi *et al.* (2002) it has been argued that mostly the respondents which were intolerant to the lactose were able to find out the word of 'milk' and the words related to milk and 5 those respondents who were peanut intolerant were able to find out the words which specified that product contained peanuts or the traces of peanuts. According to Joshi *et al.* (2002) the consumer is sometimes distrustful on the precautionary label and perceives the presence of any undeclared allergen which could be harmful to their health.

The consumers who are allergic consult the precautionary labelling and read the ingredient list of the food products they much. The non-usage or ignorance can lead to detrimental consequences to their health and result in negative perception regarding the product (De Blok *et al.*, 2007; Knibb *et al.*, 2000; Primeau *et al.*, 2000). The study carried out by Simons *et al.* (2005) suggested that the lack of awareness and proper knowledge results in low level of confidence and misunderstanding as well as misinterpretation of the labels. According to the findings of Joshi *et al.* (2002) precautionary labels are the quality indicating cues but a vivid clarity is required for understandability and readability. An incomplete understanding of the label may lead to the negative perceptions regarding the quality of the food item (Joshi *et al.*, 2002). Further, Mfueni (2018) carried out the study by taking into consideration the relationship of allergic consumer and the manufacturer of the food item. The study yielded the result that the allergic consumers perceive the healthfulness of the product by consulting the precautionary labels.

In the past studies which have been conducted on the matter of precautionary labels have reported that the overall perception of the healthfulness regarding that particular product increases (Urala *et al.*, 2003; van Trijp & van der Lans, 2007). According to Lähteenmäki *et al.* (2010) precautionary labels serve as quality indicator for the consumers and perception of the quality increases in the minds of consumers with proper labelling. Hersleth *et al.* (2015) argued that the information present on the food packages in the form of food labels increase the information of consumer for healthier choices. Menichelli *et al.* (2012) also reported that the precautionary labels present a healthier choice and can help to make the judgments regarding the packaged food. It has been strongly argued by Aschemann-Witzel *et al.* (2013) that packaging is a part of product design whereas labelling is the most important part of the packaging. A proper disintegration of information on food packages could help them to take into account the nutrient content as

well as precautionary contents. This could help consumers to get information. Presence of adequate information on food labels also forms positive perceptions about the quality of the product. The facts provided to the consumer in the form of precautionary label have a unique potential to guide them and form judgments about it (Darkwa, 2014). It can clearly be established from the literature that precautionary labels have undergone investigation in European markets. Recent researches in European countries have revealed that higher level of knowledge leads to increased use of precautionary labelling (Sandvick *et al.*, 2018). Due to this understanding they pay more attention to this label and precautionary statements on food packages now-a-days (Hersleth *et al.*, 2011). There is higher level knowledge in European consumers regarding allergies and allergen labels as compared to Asian consumers (Sheth *et al.*, 2010). According to the investigations of Miles *et al.* (2005) the precautionary labels are a necessary part of food packages in Europe.

The labeling on the packages has never been as informative as it is today, so such consumers must take into account and read the information about any potential allergies (Taylor & Hefle, 2006). The precautionary label is the source where the buyer could get the information about the allergen possibility. The label should be displayed explicitly to transmit vital information. According to Sheth *et al.* (2010) due to variety of languages used all over Europe there is an issue of understandability and comprehension of the labels. To increase the chances of risk avoidance the information is displayed in a number of languages to enhance the understandability. The readability of the labels is a major problem being confronted by the consumers. The font size and the display of the information are supposed to conform to the respective government regulations (Mackey & Metz, 2009). It could be evidently drawn that precautionary labels have been studied in consumer behavior as an extrinsic cue on a very limited scale.

The construct of food labels has been studied on variety of dimensions including healthfulness, awareness, quality, knowledgeability which have been studied consistently. Furthermore, a survey conducted in Express Tribune Pakistan by Khan & Nasr (2011) reported that consumer in Pakistan is unaware of nutritional value and allergic reactions related to food. They are unaware of the basic allergens (wheat, milk, eggs, peanuts, soy, tree nuts and fish) which might possibly be present in any packaged food. The previous studies have much focused on the impact of precautionary labels on risk avoidance. The data on the quality perceptions of the consumers formed by precautionary labels needs to be further probed into (DunnGalvin *et al.*, 2015). Lack of assessment regarding the quality perception formation because of precautionary labels in Asian market paves the path for investigation (Hwang *et al.*, 2016).

As it is evident that most of the research has been concentrated in the European markets (e.g. Urala *et al.*, 2003; van Trijp and van der Lans, 2007; Fulgoni *et al.*, 2009; Menichelli *et al.*, 2012; Aschemann-Witzel *et al.*, 2013; Hersleth *et al.*, 2015). Galvin *et al.* (2015) recommended that research on precautionary allergen labelling is in infancy in Asian markets. According to Hwang *et al.* (2016), assessment of the effect precautionary label along with other extrinsic factor is recommended for future researchers.

Marchisotto *et al.* (2016) declares that precautionary label is a successful indicator of quality. In prior study precautionary label has been conceptualized as quality cue (Choi *et al.*, 2016). Various studies validate the impact of precautionary labels on perceived product quality (Higginson *et al.*, 2002; Flinterman *et al.*, 2006; Hefle *et al*, 2007). As mentioned previously, the precautionary labelling is believed to have a significant relationship with perceived product quality either positively or negatively. Without proper labeling, the consumers will blatantly discard such product. There are many studies pertaining to food

labeling which bring ideas and important for the manufacturing industries of food product in the aspect of labeling (Abdul Latiff *et al*, 2013). To communicate the risk of the presence of a certain allergen ingredient in the packaged food item, precautionary labelling is used on the food package. These precautionary labels serve as an indicator of a particular ingredient. According to the survey conducted by Crochrane *et al.* (2013) the consumers have less understanding to label reading and mostly the people with severe allergic reactions like asthma and unconsciousness tend to read the precautionary label more. In the study conducted by Remington *et al.* (2015) reported a positive association between precautionary label and perceptions of healthfulness. According to Robertson *et al.* (2013) precautionary label is vital in sensitive consumer's purchase goal. According to the suggestion of Dunn Galvin *et al.* (2015) precautionary label is displayed on the food packages to communicate any potential risk of allergic reactions. Precautionary labels should be standardized in order to make it more comprehensive (Zurzolo *et al.*, 2016). Dunn Galvin *et al.* (2015) stated that consumers encounter a state of confusion while reading the precautionary labels hence they should be standardized. A positive relationship between precautionary labelling and food quality perception has been reported (Cornelisse-Vermaat *et al.*, 2008). Effective precautionary labelling is the primary source of information to the consumer (Taylor & Hefle, 2001). Concerning the precautionary label and quality perception relationship, Zurzolo *et al.* (2013) found a significant relationship.

The foods which are sold unpacked without precautionary label have a potential chance of the presence of allergens in it (Munoz-Furlong, 2003). De Block *et al.* (2007) studied the relationship between the precautionary label and quality life of food and found negative relationship. On contrary basis Fox *et al.* (2009) reported a positive relationship among precautionary label and the quality of food. Simon *et al.* (2005) reported that precautionary label is significantly associated with the food quality perceptions. Voordouw *et al.* (2011)

suggested that the precautionary label should be clear and non -ambiguous. Positive food quality perception is the consequence of precautionary label on food package. Taylor *et al.* (2002) stated that consumers consult the precautionary labels to avoid the risk of any undeclared ingredient threat. Flinterman *et al.* (2006) reported that the consumer who are intolerant to specific ingredient have a limited food choice and they refer to the precautionary labels to avoid any suffering (Flinterman *et al.*, 2006). The study conducted by Wensing *et al.* (2002) reported that the positive allergen statement for example "the product is nut free" creates a positive judgment of product quality in the minds of consumer. On the similar grounds, Allen *et al.* (2014) reported that sensitive consumers seek for the precautionary label. Allergen information casts a positive cognitive impact on the quality of food product. Mondoulet *et al.* (2005) studied extent of relationship between the precautionary label and perceived food quality of the packaged food. Consumers perceive the higher quality of the food product which has adequate information on the potential allergen ingredient (Mondoulet *et al.*, 2005).

Allergen information casts a positive cognitive impact on the quality of food product. Wardy *et al.* (2018) studied extent of relationship between the precautionary label and perceived food quality of the packaged food. Consumers perceive the higher quality of the food product which has adequate information on the potential allergen ingredient (Wardy *et al.*, 2018). Eigenmann (2001) investigated perceived healthfulness and awareness as a dimension of precautionary labels in which he reported that the allergic consumers use allergen labels to prevent from any food allergies. The food items which contain precautionary labels protect the consumers with the food allergies (Johansson *et al.*, 2001; Pumphrey, 2000; Sampson, 2001; Taylor & Hefle, 2006). The potential source of information for the food allergic consumers is the precautionary labelling. An effective ingredient list on the package is useful for all the consumers in general and for allergic

consumers in specific consumers (De Blok *et al.*, 2007; Van Putten *et al.*, 2006). The allergic consumer considers the presence of precautionary label as a symbol of quality and healthfulness (Eigenmann, 2001; Hefle *et al*, 2007).

Therefore, this study hypothesizes that:

Hs: Precautionary labels casts a significant impact on product perceives quality.

2.7.7 Halal Logo

The meaning taken from the terminology of Halal refer to the fact that they are permissible in Islam and are deemed fit for use. With the fast developing packaged food industry and rapidly increasing Muslim population, the companies are now ethically obliged to display the logo of Halal if the product is targeted to Muslim consumers as well (Wahab *et al.*, 2015). Presence of Halal logo on the packaged food posits a notion that no such ingredient is the component of that product is not permissible in Islam (Zurina, 2004; Mellahi, 2003). The food products having any slightest trace of any non-Halal component for instance blood, pork or any of their remains will be unfit for consumption (Riaz & Chaundry, 2004). The conception of Halal provides Muslims with a full way of life and code of conduct. The food which is branded with a Halal logo is considered to possessing the qualities of healthfulness and superior quality (Hayati *et al.*, 2008). The Halal food is permissible by Islam only hence this is an obligation for serving Allah.

According to the research conducted by Zurina (2004) in Malaysia, it is perceived that the food product is only Halal if all the raw materials used for manufacturing are also lawful. If these conditions are fulfilled then it is considered to be compatible for consumption. For the Muslims halal consumption is being recommended in many verses of Holy Quran and non- halal is being forbidden. Halal consumption is considered to have a spiritual

connection in Islam (Hayati *et al.*, 2008). Religion is the trait of life which determines pattern of life for the individuals (Nakyinsige *et al.*, 2012). The Muslim consumer in modern days confronts a wide range of the products to select from (Ayyub *et al.*, 2013). Due to increasing sense of religiosity the manufacturers and marketers are bound to display Halal certification logo in order to provide information to consumer that the food item is in compliance with the Shriah laws (Ayyub & Bilal, 2011).

According to the report conducted by Riaz Ul Haq (2014) for the express tribune Pakistan, Halal food market is a trillion dollar industry in which Pakistan is a minor shareholder of just 5%. The non-Muslim countries are dominating in the Halal food exports. The food companies are involved in Halal packaged food manufacturing but none of the manufacturers have contributed in export (Riaz Ul Haq, 2014). By looking at the international demand of Halal food items, Pakistan has embarked on the project of exporting more Halal foods (Qureshi, 2014). In this project of increasing Halal food exports many local and international food companies are expected to participate. For this government of Pakistan has established a Halal food zone in province of Punjab and city of Faisalabad (Riaz Ul Haq, 2014).

The Halal food authority of Pakistan prepares and implements the policies for international as well as provincial Halal trade. All the standards for Halal labelled food products have been recommended by Organization of Islamic Cooperation (Asgher, 2015). As the number of Muslims in western consumer market is increasing the demand of Halal labelled packaged foods has also risen. The research on the impact of Halal logo on product quality perceptions is rare as corresponding to the global boost in the Halal labelled packaged foods (Azam & Azam, 2016). Even though, Pakistan is a majority Muslim country the display of the Halal logo on the packaged food has been made mandatory by the law

(Hussian *et al.*, 2016). The need of a keen study on the Halal logo as a quality indicating cue in Pakistani consumer market is inevitable (Hussain *et al.*, 2016).

Moving on further, based on the previous studies it is evident that there are very few studies which have further flourished the concept of Halal logo (Bonne & Verbeke, 2008; Mokhlis, 2009; Syed & Nazura, 2011). Halal labelled products has no such clear understanding in the Muslim consumers (Syed & Nazura, 2011; Copinath, 2007). The number of Muslims all around the world is increasing yet modern marketing is not focusing on the impact of Halal labelled products in marketing theory debates (El-Bassiouny, 2015). If we accept the role of cultural forces in shaping consumer behaviour, it would seem inappropriate to translate previous research on consumption and identity construction to consider Muslim consumers worldwide as uniform (Abdul Latif *et al.*, 2013). The influence of Halal labelled packaged food products in consumer behaviour is studied on very weak basis (Bonne & Verbeke, 2008; Sandicki *et al.*, 2011). It is responsibility of the in charge agency for delivering Halal food and provide the consumers with necessary education regarding the Halal status of the food items (Podsakoff *et al.*, 2005). As suggested by Jamal (2013) the efforts of education and awareness of Halal eating must be directed towards consumers with advertising means but also to the schools aged children. The advertising methods include electronic means, newspaper, radio and internet. These means can provide education and alerts regarding the Halal exposure. As the knowledge level of consumer has increased as compared to the past, they are becoming health cautious, cleanliness cautious and savvy (Khan and Schlegelmilch, 2012). They want to know what they are consuming. Health, safety and cleanliness are the major aims of Halal and for this reason the demand of Halal products is not only increasing in Muslims but also in non-Muslim consumers (Kartina, 2005). The Halal is not only a religious symbol but it has now become a symbol

of quality assurance and quality lifestyle as well. The symbol of Halal casts a positive impact on the religious knowledge of the consumers (Alam & Sayuti, 2011).

It is argued by Kartina (2005) that the marketers and policy makers should pay keen attention to the composition of the food items in the country and reinforce the regulatory policies of the Halal compliance in the food consumption. Lindenmayer (2001) supports his argument by saying that the consumer has a right to know about the food he is consuming or purchasing comply with the laws of Halal or not. The presence of Halal logo on the food package creates a positive perception about the product and it makes the buyer well informed about the status of the product they intend to purchase (Al-Zaharani, 2015). As the Muslims are making their position to be felt strongly both socially and politically all around the globe, hence the Halal certification is becoming increasingly important which could prevent them from any misleading choices and deceptive practices (Riaz & Chaudry, 2004). Globally, the trends of consumer's socio cultural variables, attitudes and food preferences have changed vastly because of inter cultural mingling (Mohd *et al.*, 2011). As the population of the Muslims is increasing around the globe, Halal symbol has also trended in not only among the Muslims all around the world but also non-Muslim consumers (Sulaiman et al., 2011).

There are some previous attempts in literature regarding Halal logo on the food packaging. According to Bettman (1979), Halal symbol is perceived to be the logo of quality and safety and the Halal food is also perceived to be much better in taste as compared to the non-Halal items. The studies which have considered the variable of religion have focused on the impact of religion on behaviour, attitudes, communication, level of trust, quality assurance and risk reduction (Engel *et al.*, 1995). Religions mostly have guidelines for certain behaviors including consumption behavior. Islam and Jewish religions have explicit guidelines regarding eating habits.

The research conducted on religious identities and purchase patterns by Schiffman & Kanuk (1997) reported that people affiliated with different religious identities purchase accordingly and their shopping patterns are a reflection of their religious identity. Johnson (1978) defined religion as a belief pattern according to which the followers of that religion respond. By taking this definition into account Clapp (1998) investigated the relation between the Islamic faith and consumption pattern and reported a positive significant relationship.

As proposed by Jamal (2013) that the awareness about eating according to the principles of Islam is needed to be provided. The modes through which advertising can be done include electronic, print and social media. The awareness regarding the Halal food consumption is increasing and packaged foods with a Halal logo on it are considered as healthy, clean and high quality (Khan *et al.*, 2012). The consumption of Halal labelled products is increasing not rising in the Muslim communities but also in non-Muslims due to the perceptions of higher quality (Khan & Khan, 2017). According to Shah and Muhammad (2011) the Halal logo seen to be sign of quality and religious compliance (Shah & Mohammad, 2011).

The presence of Halal logo on the food package creates a positive perception about the product and it makes the buyer well informed about the status of the product they intend to purchase (Al-Zahrani, 2015). As the Muslims are making their position to be felt strongly both socially and politically all around the globe, hence the Halal certification is becoming increasingly important which could prevent them from any misleading choices and deceptive practices (Riaz & Chaudry, 2004).

A certified logo of Halal is being displayed by various authorities (Akbari *et al.*, 2017). The logo is termed as a major quality determining sign and it is sought by the consumers when they are in a buying situation (Fotopoulos *et al.*, 2003). The world wide acceptance of Halal labelled products is being endorsed by various researchers (Berry, 2008; Berry, 2011). The growing importance of Halal products in non-Muslim countries specifically is owing to its perceived superior quality as compared to its non-Halal counter parts and cultural assimilation (Berry, 2011). Halal logo is said to be yardstick for safety and religious adherence (Shah & Mohammad, 2011; Fischer, 2011). Consumption of the products which are free of non Halal ingredients is an irrefutable component of Islamic belief (Al-Sehran, 2010). Consumers seek for the products which have a Halal logo displayed on them (Rajagopal *et al.*, 2011).

Even though the topic of Halal consumption has a high importance but less research work has been done in the arena. The logo of Halal is considered to be marketing cue and an indicator of quality (Gokarıksel & Secor, 2010; Mokhlis, 2009; Sumali, 2006). The consumers following Islam make an effort world-wide as it their religious identity and a benchmark for safety (Khan *et al.*, 2017: Shaari & Arifin, 2010).

The choice of packaged food with label of Halal on it is preferred by non-Muslim consumers around the globe now a days as the notion of animal welfare is also one of the major factor (Bergaud-Blackler, 2006). A study conducted in Russia reported that non-Muslims in Russia considered Halal labelled products as hygienic and totally compliant with the standards of quality (Ali et al., 2014; Aziz & Vui, 2012). In the recent times the marketers are embedding the Halal logo on their food packages not only to show religious compliance but also as an advertising strategy (Riaz & Chaudhary, 2004; Mandle *et al.*, 2015; Rezai *et al.*, 2010).

The Halal logo is important factor in the store patronage in European countries where consumers repeatedly visit the same store selling the Halal products. In developing countries like India, Pakistan and Bangladesh the labelling has not been given much importance. The consumers are not well educated and have less knowledge regarding what they are consuming or what they have consumed (Mohamad *et al.*, 2012). Little research has attempted to shed light on the relationship between religiosity and perceived product quality, the scarcity of research has been lamented by researchers (Mokhlis, 2009). Carrying out this particular study in Pakistani market would fill out the empirical gap in the literature.

Regenstein *et al.* (2003) reported that Halal foods are permissible in Islam as they have a high quality. Ahmad *et al.* (2008) conducted the study in UK market and found that Muslims and non-Muslims residing in UK consider Halal food as of higher quality. Mellahi (2003) established that Halal food consumption has a strong impact on the family traditions. According to Verbeke (2006) Halal food is intrinsically safe and has a superior quality. Halal labels play a role of marketing stimuli (cue) which can provoke the perceptions about the quality of the food. Presence of these symbols on the food can evoke positive or negative perception effects (Khan *et al.*, 2012). Similar results have been reported by Rarick *et al.* (2012) that putting religious logos on the packaging casts an impact on minds of consumers. The halal symbol on the food package minimizes the inconsistency in the minds of consumers (Ambali & Bakar, 2014). According to Ayyub *et al.* (2013) along with Muslims non-Muslim consumers also consume food by searching halal-logo because to them Halal stands for healthfulness and quality. The market for the halal products is increasing internationally.

A significant finding by Demirci *et al.* (2016) is that Halal symbolized foods are considered to be superior in quality as compared to non-Halal. Majid *et al.* (2015) conducted research in Malaysian context and reported that Malaysian consumers consider Halal logo issued by JAKIM to be the quality indicator. Muslim consumers value the products with Halal logo than any other certification (Bohari *et al.*, 2013). The logo of Halal is vital for the consumers to evaluate the quality of the packaged food (Mohamad *et al.*, 2012). The consumption of Halal is not because of religious obligation but also due to the hygiene, cleanliness and superior quality (Majid *et al.*, 2015). Superior quality is the consequence of Halal symbolized products (Aizat *et al.*, 2009).

According to Khan *et al.*, (2017) Halal food is intrinsically safe and has a superior quality. Halal labels play a role of marketing stimuli (cue) which can provoke the perceptions about the quality of the food. Presence of these symbols on the food can evoke positive or negative perception effects (Khan *et al.*, 2012). Similar results have been reported by Rarick *et al.* (2012) that putting religious logos on the packaging casts an impact on minds of consumers. The halal symbol on the food package minimizes the inconsistency in the minds of consumers (Ambali & Bakar, 2014). According to Ayyub *et al.* (2013) along with Muslims non-Muslim consumers also consume food by searching halal-logo because to them Halal stands for healthfulness and quality. The market for the halal products is increasing internationally. A significant finding by Demirci *et al.* (2016) is that Halal symbolized foods are considered to be superior in quality as compared to non-Halal. Food with halal logo is considered as aspirational containing an intangible tacit quality factor (Freling & Fobes, 2005). Shafie and Othman, (2006) stated that the consumers with stronger beliefs in religion require food products which ensure presence of Halal symbol on the food packages they choose for consumption.

The food products with a halal symbol on their package are linked not only to the religions but the perceptions of the cleanliness; health and taste are also linked to it (Mohamed *et al.*, 2012). The logo of the halal is becoming a representation of quality measurement as well as compliance with the religious laws (Burgman & Roos, 2007). Burgman and Roos (2007) further argue that halal symbol is also applied to non-food items now-a-days. With the advancement in technology, the halal products may also become quality wise richer. All the products but specifically the food products make Muslims more conscious about halal. Jamal and Sharifuddin (2015) stated that future research should consider the combined effects of different forms of extrinsic information.

Hence it can be hypothesized that:

H_6: Halal logo casts a significant impact on product quality perception.

2.7.8 Consumer Knowledge

A moderator is construct which impacts the strength of relationship between the predictor variable (independent) and criterion or dependent variable (Baron & Kenny, 1986). Moderator has a potential to enhance or reduce the course of nexus between independent and dependent variable or it can even change the relationship between the two constructs in both positive and a negative way (Lindley & Walker. 1993). In this study it is hypothesized perceived product quality (dependent variable) is predicted by six independent variables: brand name, country of origin, price, nutritional label, precautionary label and Halal logo. It is hypothesized that a positively significant relationship might be present among the independent and dependent variables. Another third variable has been incorporated into the framework which is the interaction term namely consumer knowledge. It is assumed that the effect of independent variables (food packaging cues) is

conditional on the level of consumer knowledge possessed by the consumer (Kim *et al.*, 2001). The moderator variable is supposed to impact on the direction and strength of the relationship predictor and criterion variable as well as it is ideally supposed to be uncorrelated with both predictor and criterion variable (Baron & Kenny, 1986). Based on the study of past literature who have taken consumer knowledge, these two basic conditions have been fulfilled and same is expected in this study.

The long term working memory presented by (Ericsson & Kintsch, 1995) says that the consumer integrates the new information with existing linkages in the memory. This integration of information results in formation of long term memory networks (Chiesi *et al*, 1979; Ericsson & Kintsch, 1995). The impact of consumer knowledge on perceptual process has been studied by several researchers (Charnes *et al.*, 2001; Jacoby *et al.*, 1974) and based on these studies the consumer knowledge casts an impact on the usage of nutritional labels in following ways: Firstly, having previous knowledge enables consumers to focus on the important cues given in the form of information and ignore other marketing stimuli which do not indicate the salient features of perceived qualities of the food product. Secondly, having a knowledge base of can help consumers to comprehend the food packaging cues and lastly it could help in the application of the knowledge while making food choices.

The consumer knowledge is effective in making healthier food choices as well as the consumer knowledge can be moderate the relation of food labels and dietary behaviors/ food quality perception/ buying behavior etc. (Fitzgerald *et al.*, 2008; Satia *et al.*, 2005). The basic information present on the food packages is serving size, calorie count, daily values, vitamins minerals and energy value country of origin, price tag, brand name and pictures. The survey was conducted in USA where it was reported that almost two third of

the respondents used food packaging cues while going for the purchase decisions (Ollberding *et al.*, 2010). The consumer can understand the nutritional information said Graham & Jeffery, (2011) but it has been reported that the precision and accuracy of comprehension of nutritional labels slows down when the task is complex (Grunert & Wills, 2007; Levy & Fein, 1996; Miller *et al.*, 1997). The research conducted by Levy and Fein (1998) reported that the respondents could identify the nutritional fact panel accurately however they could not calculate the daily intake value and could not understand the numerical calculations. Latif *et al.* (2016) suggested that knowledge level, more than any other factor, could predict health-related behaviour patterns and diet quality.

Yen *et al.* (2008) argues that the consumer knowledge impacts the perceptions of the consumers regarding the product however regional differences exist because the nature of the market differs all over the globe. Due to the increasing level of education in Pakistan the consumer is becoming knowledgeable and they more likely to promote more healthful diets because more highly educated people access and process nutrition information more effectively (Latif *et al.*, 2016). Although, the knowledge level of Pakistani consumers is increasing, the literature has a very minimal support on this regard. Investigating the relation of consumer knowledge as a moderator could yield some interesting insights regarding Pakistani consumers (Latif *et al.*, 2016).

This integration of information results in formation of long term memory networks (Chiesi *et al.*, 1979; Ericsson & Kintsch, 1995). The impact of consumer knowledge on perceptual process has been studied by several researchers (Charnes *et al.*, 2001; Jacoby *et al.*, 1974) and based on these studies the consumer knowledge casts an impact on the usage of extrinsic cues in following ways: Firstly, having previous knowledge enables consumers to focus on the important cues given in the form of information and ignore other marketing

stimuli which do not indicate the salient features of perceived qualities of the food product. Secondly, having a knowledge base of can help consumers to comprehend the food packaging cues and lastly it could help in the application of the knowledge while making food choices. The consumer knowledge is effective in making healthier food choices as well as the consumer knowledge can be employed as a moderate the relation of food labels and dietary behaviors/ food quality perception/ buying behavior etc (Fitzgerald *et al.*, 2008; Satia *et al.*, 2005).

Hidalgo *et al.* (2017) argues that the consumer knowledge impacts the perceptions of the consumers regarding the product however regional differences exist because the nature of the market differs all over the globe. Due to the increasing level of education in Pakistan the consumer is becoming knowledgeable and they more likely to promote more healthful diets because more highly educated people access and process nutrition information more effectively (Latif *et al.*, 2016). Although, the knowledge level of Pakistani consumers is increasing, the literature has a very minimal support on this regard. Investigating the relation of consumer knowledge as a moderator could yield some interesting insights regarding Pakistani consumers (Latif *et al.*, 2016).

When the evidence is readily available regarding the quality of the food product then it is more likely for the consumer with high level of objective product knowledge would base their evaluations on intrinsic cues but when it comes to the situations where the food product is not apparent for example packaged food products, consumers are more will rely on extrinsic cues such as country of origin, price tag etc (Schaefer, 1997). Subjective product knowledge impacts on the consumer's confidence level regarding use of the information stored in the memory however the objective knowledge influences information processing strategies. High level of subjective knowledge can prompt the consumer to be

more confident in utilization of extrinsic cues. Objective and subjective product knowledge are employed as dimensions by (Veale & Quester., 2009; Schaefer, 1997).

Consumer knowledge effects the perceptions and mindset of the consumers however regional differences exist (Bruwer *et al.*, 2017). Karimi *et al.* (2015) suggest that impact of consumer knowledge on perceptions/attitudes/motives needs to be investigated. Ahmad (2013) suggested that the factor of brand name has been studied several times with consumer purchase intention and social prestige as a moderator. The factor of consumer perception and moderating role of consumer awareness/ consumer knowledge needs to be investigated further for practical insights. According to Qasem *et al.* (2016) the role of social status as moderator is clear hence other moderators like consumer knowledge/ consumer attitudes could yield more insights. According to Wills *et al.* (2009) consumer knowledge needs to be employed as a moderator in examining the relation of food labels and perceived quality. The consumers are not well educated and have less knowledge regarding what they are consuming or what they have consumed (Mohamad *et al.*, 2012).

Despite of the theoretical linkage between the extrinsic cues, perceived product quality and role of consumer knowledge as a moderator (Alba & Hutchinson, 1987; Alba & Hutchinson, 2000; Veale., 2008) not many studies have employed consumer knowledge as a moderator. Hence, this particular study has included the consumer knowledge as moderator between the extrinsic food packaging cues and perceived product quality. To test the moderating effect of consumer knowledge on the entire image variables one by one, following are the hypotheses to be tested

H_7: Consumer knowledge moderates the relationship between brand name and product perceived quality.

Previous studies by various researchers develop a consensus that country of origin as a vital quality indicating cue. Consumer expertise is comprised of two dimensions, objective knowledge and self-assessed or subjective knowledge. Objective knowledge is accurate and current information stored by an individual in their long-term memory. This type of knowledge is based largely on cognitive type learning and experience with the product category via instrumental learning (Alba and Hutchinson 1987). A theoretical nexus has been established by past studies between the consumer knowledge and the extrinsic cues. To understanding the role of consumer knowledge as a moderator between country of origin and perceived product quality it can be hypothesized that

H8: Consumer knowledge moderates the relationship between country of origin and product perceived quality.

In a purchase situation, the ability of interpretation and accurate evaluation of the consumers about extrinsic and intrinsic cues may vary (Alba, 2000; Kardes *et al.*, 2001). In most of the situations price is the attribute which is extrinsic to the product and used to assess the quality of the product (Kardes *et al.*, 2004; Monroe, 1976; Olson, 1972; Rao & Olson, 1990; 1969; Teas & Agarwal, 2000; Wansink *et al.*, 2000). In order to analyze that how the consumer knowledge moderates the extend of relationship between price and perceived product quality, it can be hypothesized that

H9: Consumer knowledge moderates the relationship between price and product perceived quality.

In the study conducted by Annunziata *et al.*, (2015) it is argued that nutritional label is an important food packaging cue. It is evident that nutritional label influence the product quality perceptions of the consumers. The consumer knowledge regarding the nutrition and nutritional facts plays a significant role in the formation of product quality perceptions regarding the product. The hypothesis which is drawn states that;

H_{10}: Consumer knowledge moderates the relationship between nutritional label and product perceived quality.

Voorduow *et al.* (2011) considered the precautionary food label as a quality cue by the consumers. The precautionary labels are comprehensive and communicate uniform and explicit information which communicates the presence of any potential allergen (Voorduow *et al.*, 2011). According to Roe *et al.*, (1999) and Fulgoni *et al.* (2009) a major factor regarding precautionary labels and health claims is that consumers' associate health related perceptions to it. As the literature suggests the moderating role of consumer knowledge is rare in analyzing the relation of precautionary label and product perceived quality. Therefore, it is hypothesized that:

H_{11}: Consumer knowledge moderates the relationship between precautionary label and product perceived quality.

The importance of Halal logo is under investigation in the modern research arena. In the investigation conducted by Wilson & Liu (2010) Halal logo is considered to an important product attribute which is actively sought by the consumer in addition to other attributes like prices and nutritional labels. By understanding of the perception of the consumers regarding these attributes will help out the marketers and manufacturers to advertise and provide the Halal certification on the products which will maximize the acceptance level.

In order to analyze the role of the consumer knowledge as a moderator it can be hypothesized that

H12: Consumer knowledge moderates the relationship between Halal logo and product perceived quality.

Table 2.1

Summary of Constructs, Dimensions and Sources

Constructs	Sources
Brand name	Lee (2004)
Country of origin	Qasem *et al.* (2016)
Price	Latif *et al.* (2016)
Nutritional label	Loureiro *et al.* (2006)
Precautionary label	Lourĩero *et al.* (2006)
Halal logo	Jamal and Sharifuddin (2015)
Consumer knowledge	Veale and Quester (2009)
Perceived product quality	Asshidin *et al.* (2016)

2.8 Theoretical Framework

The base of any research plan is the theoretical framework which is the focal point of all the study (Ennis, 1999). The interrelated set of concepts which gives a course to the study is called the theoretical framework (Creswell, 2014). As emphasized by Ennis (1999) theoretical framework identifies and describes the major rudiments of the study. It is used to hypothesize, comprehend and give meaning to the elements that impact or predict the events and outcomes as well their relationship. The research framework provides a foundation of the study with the previous literature and it gives a vivid sense of theoretical phenomena proposed in the study.

Few cues are more important or relevant that others and it varies according to the product category as well as consumer segment. When the consumer shops for the packaged food items they will form their quality judgements that provide more information regarding the

quality of the product (Heidi & Olsen, 2017). For packaged products, food labels and symbols are central in quality judgement formation (Van Ooijen *et al.*, 2017). This observation highlights the ambiguous meaning of perceived product quality and reinforces the argument that more focused concepts are needed to conduct managerial and academic research on this topic. The majority of research that examines the impact of marketing variables on perceived product quality has concentrated on price. Despite expectations of a positive relationship, results of these studies have been mixed. Overall association between price and perceived product quality was positive but of low magnitude (Wartella & Lichtenstein, 2010).

Several explanations have been offered for these differing outcomes. Scholars have suggested that methodological differences and demand artifacts could be responsible. The price-objective quality relationship and consumer expertise have also been shown to moderate this relationship (Rao & Monroe, 1989). A meta-analysis by Rao and Monroe (1989) suggests that a generalized positive relationship between the two variables exists. The strength of the association for packaged products is still unclear (Wardy *et al.*, 2017). The theoretical framework of the present study has the independent constructs of brand name, country of origin, price, nutritional label, precautionary label and Halal logo. The framework considers consumer knowledge as moderator and perceived product quality.

The framework is basically constructed on food packaging cues. It starts with the impact of elements of food packaging elements which are used as cue viz. brand name, country of origin, price, nutritional label, precautionary allergen label and Halal logo. This framework reflects the consumer perception based model and also highlights its significance in treating the food packaging cues as marketing strategy.

The positive product perception is the consequence of the food packaging cues. Even though the impact of selected cues on quality perceptions has been investigated in literature but the combined and relative impact is still under study. The model when tested in Pakistani market is expected to provide interesting insights.

Previous studies have found a stout nexus between the food packaging cues with the perceived product quality. All the cues have been proved to have strong relationship with perceived product quality individually (Bandara *et al.*, 2016; Chung *et al.*, 2006; Mueller & Szolnoki, 2010; Vidigal *et al.*, 2011; Barreiro-Hurlé *et al*, 2010). The impact of food packaging cues on food quality perception has not been yet tested in developing country context in general and in Pakistani market specifically. The independent variables in this study consist of brand name (Chovanová *et al.*, 2015), country of origin (Kalicharan, 2014), price (Cristo *et al.*, 2017), nutritional label (Mannell *et al.*, 2016), precautionary allergen label (Miles *et al.*, 2005) and Halal symbol (Ayyub *et al.*, 2015). The framework that presents the variables under study is illustrated below

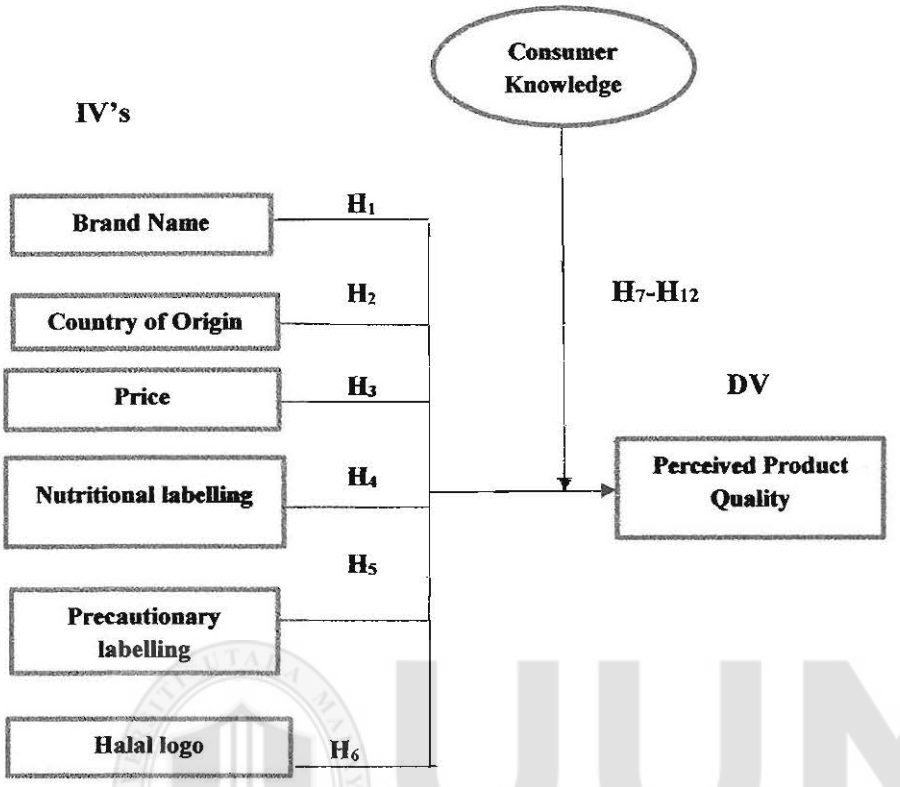

Figure 2.1

Theoretical Framework

Quality cues are defined as information stimuli that are related to the quality of the product and can be ascertained by the consumer through the senses prior to consumption (Steenkamp, 1990). Consumers are offered a large number of quality cues in the market. In the consumers' mind, desired cues are gathered and categorized, before making predictions of product quality. How the cues are gathered and categorized is based upon the beliefs and prior knowledge of the product that consumers have experienced. Perception is the overall judgment of the product characteristics which the consumer can associate with or has experienced when evaluating the product. Perceived quality is different, depending on the product category. The personal factor is important, as the whole

idea of perceived quality is based on an individual's judgment. Consequently, one person's understanding of perceived quality will be different from another person, since personal preferences and experience levels are likely to differ. The present study focus is on the impact of brand name, price, country of origin, nutritional label, precautionary label and Halal logo as signals from the consumer point of view of product quality perception as these food packaging cues have been referred to be used as frequently by the consumers (Van Ooijen *et al.*, 2016). Previous research stresses that packaging cues have an impact on consumers' choice. A package is acknowledged as a marketing communication tool as packages convey meanings directly to consumers when the decision to purchase is being made. As such, it is commonly accepted that packaging cues convey meanings about the product and its quality (Cho *et al.*, 2015; Rothschild, 1981). Even though the fact that packages convey meanings is well acknowledged, it seems that there are few scholarly studies focusing on food packaging as a means of communicating the unobserved quality (Underwood, 2001; Cho *et al.*, 2015).

Table 2.2

Summary of Hypotheses Development

No.	Hypotheses
H_1	Brand name casts a significant impact on the product quality perception.
H_2	Country of origin casts significant impact on product quality perception.
H_3	Price casts a significant impact on product quality perception.
H_4	Nutritional label casts a significant impact on product quality perception.
H_5	Precautionary label casts a significant impact on product quality perception.
H_6	Halal logo casts significant impact on product quality perception.
H_7	Consumer knowledge moderates the relationship between brand name and product perceived quality.
H_8	Consumer knowledge moderates the relationship between country of origin and product perceived quality.
H_9	Consumer knowledge moderates the relationship between price and product perceived quality.
H_{10}	Consumer knowledge moderates the relationship between nutritional label and product perceived quality.
H_{11}	Consumer knowledge moderates the relationship between precautionary allergen label and product perceived quality.
H_{12}	Consumer knowledge moderates the relationship between Halal logo and product perceived quality.

2.9 Summary of Chapter

This chapter presented comprehensive review of literature regarding relationship of selected food labels with quality perception. This chapter was divided into three main sections. First, it discussed the literature on food packaging, brand name, country of origin, price, nutritional labels, precautionary labels, Halal symbol and food quality perception. The relationship between the selected food labels and food quality perception has been established in this section based on the previous researches. Second, this chapter discussed signaling theory which is the underlying theory. Third, the theoretical framework of the study and hypotheses were discussed. The upcoming chapter will discuss the research methodology of the study, sample selection, data sources and statistical techniques.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Introduction

Methodology is referred as the process of development of research by the researcher whereas method is actually the technique used by the researcher. The sections in this chapter explain research design, variables 'operationalization, population and sampling issues, instrumentation aspects, sources and methods of data collection, analysis methods, reasons to rely on structural equation modelling, and the pilot test and its analysis.

3.2 Research Design

Methodology is defined by Holloway (1997, p.105) as "*Principles and philosophy on which researchers base their procedures and strategies, and the assumptions that they hold about the nature of the research they carry out.*" Research is an effort to investigate the solution to a problem. It is a multi-step process which is systematic and organized (Sekaran, 1992). A research methodology comprises of processes, methods, data and statistical tools for conducting an investigation. The outcomes of the investigation contribute to the body of knowledge and enrich the knowledge in research domain (Nunamaker *et al.*, 1991). According to Kuhn (1962) the array of common beliefs and agreements which are shared among the scientists about the problem solution is called research paradigm. The positivist research paradigm emphasizes on the observations, reasoning and understanding of human behaviour. Positivism is based on the philosophy proposed by August Comte. According to Cohen *et al.* (2000), positivism is adopted by the researchers for generating knowledge. The assumptions for positivism include generalizability, determinism and parsimony. The other paradigm of research is anti-positivism. The social realities and ground realisms are studied in anti-positivist approach. The believers of anti-positivism argue that reality is

multi-faceted and comprises of various explanations. The approach of anti-positivism states that true learning is possible only when researcher probes into unexplored issues and unveiled dimensions rather than mere establishment of connections among the constructs and concepts (Cohen *et al.*, 2000). The third paradigm which is followed in research is critical theories. The researchers which follow this approach argue that previous paradigms are not much adaptable to the current situations. The interests could be of technical, practical or emancipating in nature. The positivism emphasizes to probe into social phenomena through surveys and experiments. Anti-positivist approach emphasizes to study social phenomena through interviews, observations etc. However, critical theory studies existing phenomena. Table 3.1 gives an over view of the paradigms and methodologies used in each paradigm. For this particular study positivism is followed as this study is aimed at establishing the relationship among the variables as well as survey technique is used in this research.

Table 3.1

Overview of Research Paradigms

Research Paradigm	Research Approach	Research methods
Positivism	Quantitative	Surveys: longitudinal, cross-sectional, correlational, experimental and quasi-experimental and ex-post facto research
Anti-positivism	Qualitative	Biographical Phenomenological Ethnographical case study
Critical theory	Critical and action-oriented	Ideology critique action research

3.2.1 Quantitative Research

In quantitative study, theories are being tested by using the relationship between the variables. This mode of research commences with a theory and the establishment of hypotheses from the theory (Greener, 2008). Quantitative research maximizes objectivity and neutrality. This research approach provides researcher to introduce the testability and context to study. The data collection is conducted by questionnaires mostly in this which provides broader coverage and wider picture of the phenomena under study (Carson *et al.*, 2001; Grey, 2004). The quantitative design was followed by using mall intercept survey. Following Zikmund and Babin (2010) questionnaire was used in the survey as it is preferable method for hypothesis based research. This method is more rapid and can be administered to larger sample with ease (Sekaran, 2003).

This study was conducted using survey method in shopping malls across the metropolitan cities of Pakistan i.e., Islamabad and Rawalpindi. The questionnaire (Appendix A) was personally administered in the seven big shopping malls of the cities. Data collection for this particular study was carried out for several weeks after pilot testing. A self-administered questionnaire was used to collect the data from the Pakistani consumer market. In the early stage of data analysis, an official letter from Universiti Utara Malaysia (UUM) was obtained. This letter helped the researcher to get responses from the target sample.

A detailed cover letter was prepared to which showed the background and aim of the research. In this study, the population of interest was general consumer visiting the shopping mall. There are a number of shopping malls in Islamabad and Rawalpindi region. However, the largest malls were selected from this region. The researcher chose systematically every nth visitor coming out of the mall after shopping. The respondents

were requested to fill up the questionnaire after random starting points on weekdays and weekends during (9 am to 3 pm) and (3 pm to 9 pm). During this method, a small gift in the form of a pen was given to the respondent to increase the response rate. This approach has been adopted by Mishra and Mishra (2014) while using mall intercept method.

Using quantitative methodology provided an opportunity to establish an up to date perspective of Pakistani consumer's regarding product quality perception towards food packaging cues. Data was collected via cross-sectional survey involving the distribution of structured questionnaires among the general consumers using mall intercept technique in the regions of capital city and Rawalpindi.

3.2.2 Population of the Study

In research, selecting a representative sample from the population is a major step. Sampling is a process of selecting the subjects from the population which have almost the same properties as the population and the results could be generalized over all the population. According to Forza (2000), sampling is a way to overcome the hurdles of collecting data from all of the population which is impossible and prohibitive in terms of time and money. The first milestone of selecting the sample is to identify the target population. As established by Fink (1995, p. 1): "*A sample is a portion or a subset of a larger group called a population. The population is the universe to be sampled. A good sample is a miniature version of the population - just like it, only smaller.*" It is essential that the properties of the sample should be the same as that of the population. The representative sample is important because the results obtained from the study will represent the decided population.

Islamabad and Rawalpindi were selected as sample because they are major big cities of Pakistan having a dense and diverse number of people as inhabitants from all over the country. As the capital of Pakistan, Islamabad is the most developed city. It has up to date amenities, infrastructure and large number of educational institutes. Islamabad, the capital city of Pakistan is located in the federal capital territory of Pakistan. It is the most diverse and metropolitan city of the country. Being the capital of Pakistan Islamabad comprises of all the head offices of the major companies of Pakistan, and large number of public universities and a wide range of employment opportunities. People from all around the country come to Islamabad for study and jobs. In 2016 the estimated population of Islamabad is 1.43 million. Islamabad embraces modern cultures and ideas while keeping its rich cultural heritage intact. Residents and students from all over the country are attracted to this city making it the most dynamic, versatile and urbanized cities of Pakistan ("Why is retail sector booming in Pakistan", 2012).

The estimated population of Islamabad in 2016 was 1.43 million (Worldometer, 2016). Despite of its establishment in 1960's Islamabad has settled well and grown in population steadily. The high percentage of young residents, females, attractive job market and numerous universities combined with pleasant climate the future of Islamabad is very bright. It is expected that the population will increase to 1.7 million in 2020 and 2.2 million in 2030 as most of the people are migrating to this city and growth rate is increasing. Most of the inhabitants of Islamabad fall in the age bracket of 15-64 years making 59% of the total population. The literacy rate of Islamabad is the highest in all over Pakistan which is 88%. The population composition of this city is 65% Punjabi, 10.51% Pashtun, Muhajir14% and Sindhi, Baloch, Kashmiri 7%. With all the ethnicities living here this city will be appropriate to conduct the study (Worldometer, 2016).

Rawalpindi is the neighbour city of Islamabad and also termed as twin cities. Together they form Islamabad-Rawalpindi metropolitan area. Rawalpindi has a population of approximately 3.0 million which diverse from all over the country. Rawalpindi is a district of Pakistan having a ratio of 53.16% males and 48.80% females (Worldometer, 2016). Rawalpindi being the sister city of Islamabad is also well established in infrastructure and is densely populated with diverse cultures from every social class.

Table 3.2 presents the summary of population of the cities

Table 3.2

Total Population of Islamabad and Rawalpindi

Region	Population
Islamabad	1.43 million
Rawalpindi	3.0 million
Total Population	4.43 million

Source: world population review (2016)

3.2.3 Sample Design

Sampling is the procedure used to select an appropriate number of respondents for a research from the large population. The sample is selected on the basis of its characteristics and properties so that the results could be generalized over the whole population (Uma & Roger, 2003). While conducting the investigations it is practically impossible to collect data from large population, hence the sample is chosen. It has been argued by Sekaran (2003) that using an appropriate number of respondents as a sample for your study may save time and other resources. The study on the sample produces relatively reliable results by minimizing the errors.

3.2.4 Sample Size

After defining the population the next step is to select the sample size. According to Forza (2002), the sample size is an intricate issue as it is linked with significance level and statistical power of the test. Selecting too large sample size is not common in social sciences, as the large sample can yield better results but on the same time the chances of error also maximize (Kumar, 1999; Burns, 2000). In order to generalize the findings and determine the degree of accuracy and precision, the representative sample has to be taken by researcher. According to Kinnear and Taylor (1996), to ensure the precision the largest sample should be selected.

Taking into consideration Krejcie and Morgan (1970) the sample size of 384 is suitable for the population which is more than 1 million. A sample size between the ranges of 100-400 has been suggested by Hair *et al.* (2010) for using structural equation model. The overly large samples beyond 500 are prone to type II error. Type II error occurs when the hypotheses get accepted due to large sample size which were supposed to be rejected originally (Sekaran, 2003). It is argued by Bentlar and Chou (1987) that minimum sample size to item ratio should be 5:1 however the ratio of 10:1 is being proposed by (Kline, 2005). By considering all the issues of sample size and limitations, this study consisting of 69 scale (3 items of demography) decided to select an optimal sample of 504 consumers with a ratio of (7:1).

G power is a recently used technique for determination of sample size. G power is program which is used to for power analysis and for calculating the sample of respondents required for the analysis. This program offers power analysis for frequently used tests namely t-test, F test, z test, chi-square as well as exact tests (Faul *et al.*, 2007). The sample size of 504

was also deemed fit for getting appropriate results. Figure 3.1 shows the calculation of the sample size through G power.

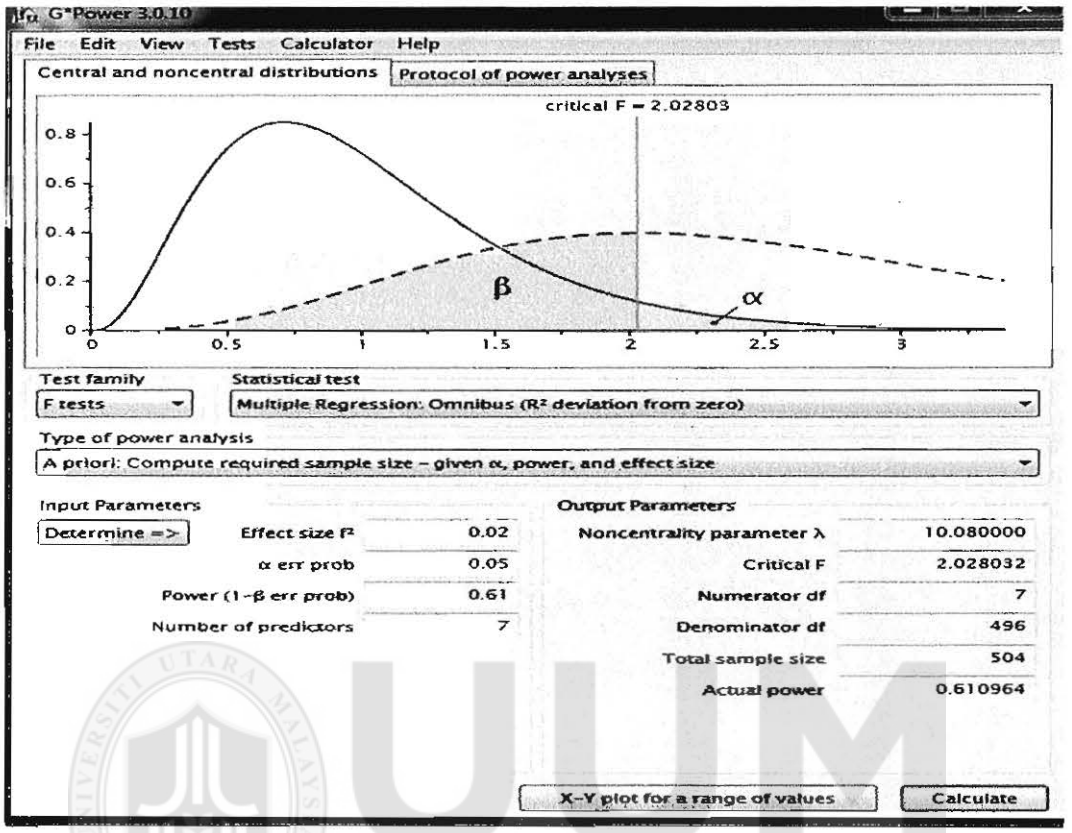

Figure 3.1

Sample size determination by G power.

After knowing the total population of interest for the study, the sample was further bifurcated among the cities proportionately as follows:

Table 3.3

City wise Sample Size

City	Calculation	Proportionate Sample Size
Islamabad	14300,00/44300,00* 504	163
Rawalpindi	3000,000/44300,00* 504	341

3.2.5 Sampling Technique and Data Collection Procedure

After calculating the sample proportions city wise, from the list of shopping malls, major shopping centres were selected from both of the cities based on the high customer turnout, geographical coverage and popularity. The strategy used in this particular study for collecting data from general consumer was to use systematic random sampling via mall intercept method. This type of sampling involves drawing every nth element in the population starting with random number between 1 and n (Sekaran, 2003). This method is often employed in the studies using mall intercept method (Mishra, 2012; Zikmund *et al.*, 2000). Employing mall intercept approach will enable the researcher to have face to face contact with the participants (Boyle & Schmierbach, 2015). This technique is referred as better in providing less distorted responses (Hair, 1998). Mall intercept approach has been used by (Misra, 2012).

Table 3.4

Shopping centres within city limits

City	Mall	Criteria for selection
Islamabad	Centaurus Mall	Geographical coverage, High customer turnout, Popularity
Islamabad	Beverly Centre	
Islamabad	Kohsar Market	
Rawalpindi	CSD Mall	
Rawalpindi	CSD Super Mall	
Rawalpindi	Green valley premium Hyper mart	
Rawalpindi	Rafay Mall	

It was not possible to account for the actual number of visitors in the mall. To minimize the bias and to address the time issues as the number of visitors vary considerably across the day, the data collection time was split into two halves. First half was (9 a.m – 3 p.m) and second half was in the evening from (3 p.m- 9 p.m). The time sampling method has been suggested by (Sudman, 1980). Through keen observation, the number of visitors were estimated on hourly basis in both the halves of the day, in weekdays as well as on weekends. Table 3.5 presents the sample distribution shopping centre wise.

Table 3.5

Sample Distribution Shopping Centre Wise

Shopping Centre/ City	**Total Observed number of visitors on weekday and weekends**	**Shopping Centre Proportion**
Centaurus Mall/ Isb	1700	163/5200 * 1700= 53
Beverly Centre/ Isb	1600	50
Kohsar Market/Isb	1900	60
Total	5200	163
CSD Mall/Rwp	2600	341/10900 * 2600= 81
CSD Super Mall/Rwp	2300	72
GVP Hyper mart/Rwp	2800	88
Rafy Mall/Rwp	3200	100
Total	10900	341

The total number of visitors were observed on different timings of the day throughout the week in each of the shopping centre in both of the cities. The sample required shopping centre wise (Table 3.5) has been calculated by the following formula:

Proportionate sample size per shopping centre =

$$\frac{\text{Proportionate sample for the city (Table 3.3)}}{\text{Total number of visitors}} \times \text{observed number of visitors in first and second halves of weekday/weekend in one mall}$$

This procedure is followed to get the appropriate number of respondents from each of shopping centre according to the visitor traffic in each of them. Table 3.6 shows sampling frame which was further utilised to calculate nth element.

Table 3.6

Sampling Frame

Shopping centre/ City	**Proportionate Sample Size on weekdays**		**Proportionate Sample Size on weekends**	
	9 a.m - 3 p.m	**3p.m - 9 p.m**	**9 a.m - 3 p.m**	**3p.m- 9 p.m**
Centaurus Mall/ Isb	300	400	400	600
Beverly Centre/ Isb	100	300	500	700
Kohsar Market/Isb	200	500	400	800
CSD Mall/Rwp	400	700	600	900
CSD Super Mall/Rwp	200	500	600	1000
Green valley premium Hyper mart/Rwp	300	700	800	1000
Rafay Mall/Rwp	400	500	1100	1200

On the basis of the observed number of visitors the sample size was further diverged according to the timing and the nature of the day. The visitor traffic was observed from morning 9 a.m to evening 3 p.m and then from 3 p.m to 9 p.m till the night. On the basis of observed visitor traffic.

Proportionate sample size time/day wise =

$$\frac{\text{Shopping centre proportion (Table 3.5)}}{\text{Total number of observed visitors of each mall (Table3.5)}} \times \text{observed visitors in first/second half of the day.}$$

Table 3.7

Proportionate sample time and day wise

Shopping centre/ City	Proportionate Sample Size on weekdays		Proportionate Sample Size on weekends	
	9a.m - 3 p.m	3 p.m - 9 p.m	9 a.m – 3 p.m	3 p.m - 9 p.m
C M/ Isb	9	12	12	19
B C/ Isb	3	9	16	21
K M/Isb	6	16	13	25
CSD Mall/Rwp	12	22	19	28
CSD Super Mall/Rwp	6	16	19	31
G V P Hyper mart/Rwp	9	22	25	32
R M/Rwp	13	16	34	37

(CM= Centaurus mall, BC= Beverly centre, KM= Kohsar mall, CSD= Cantonment store departments, GVP= Green valley premium, RM= Rafay Mall)

*53/1700*300=10

On the basis of time and day wise proportionate sampling required for questionnaire distribution per shopping centre, the systematic sampling was envisaged to draw the nth element likely to be surveyed on the selected time slots. The nth element is calculated by dividing the sampling frame (Table 3.6) with day and time wise proportionate sample (Table 3.7).

Nth element = sampling frame (Table 3.6)

Day wise and time wise proportionate sample (Table 3.7)

Table 3.8 gives the detailed view of nth visitor required to be considered in all of the time slots.

Table 3.8

Systematic Sampling for drawing nth element

Shopping centre/ City	Proportionate Sample Size on weekdays		Proportionate Sample Size on weekends	
	9 a.m- 3 p.m	3p.m-9 p.m	9a.m- 3 p.m	3p.m- 9 p.m
C M/ Isb	33	33	33	32
B C/ Isb	33	30	31	33
K M/Isb	33	31	31	32
CSD Mall/Rwp	33	32	32	32
CSD Supermall/Rwp	33	31	32	32
G V P Hypermart/Rwp	33	32	32	31
R M/Rwp	31	31	32	32

(CM= Centaurus mall, BC= Beverly centre, KM= Kohsar mall, CSD= Cantonment store departments, GVP= Green valley premium, RM= Rafay Mall)

For instance, the nth element of the centaurs mall Islamabad has been drawn by dividing 300 which is required sample size for the mall with 9 which is proportionate sample for that mall. All the visitors were drawn in this same manner throughout the survey.

3.2.6 Unit of Analysis

As the problem statement focused on exploring the perceptions of the consumers towards the food packaging cues, there was a need to gather the responses from the Pakistani consumers. The general consumer in Pakistani market was considered as the unit of analysis for the study. The response from each of the individual was considered as separate data source in the study.

3.3 Operational Definitions and Measurement

The operationalizing of all the variables were made in this section. Independent, dependent and moderating variables were adapted/ adopted from the past studies. The summary of all items is described in forthcoming sections. According to Rubin and Babbie (2011), the indicators used to determine the attribute of the variable under observation makes operational definition. The operationalizing of the variables is being presented in the subsequent sections.

3.3.1 Section One: Brand Name (BN)

The variable for brand name is operationalized by adapting the definition from Romano (1996). A brand is a collection of perceptions in the mind of the consumer/ a logo, corporate image, or distinct product or service identity that can become firmly rooted in the public's mind and the name by which a particular product is sold is known as brand name. The questions were asked on five point Likert scale. Table 3.9 represents the items

Table 3.9

Survey Items of Brand Name

Code	Survey items/ Alpha	Source
BN1	Popular brand name can describe the quality of the product.	
BN2	The branded food product makes me want to buy it.	
BN3	I enjoy eating branded foods.	
BN4	The branded food product has an acceptable standard of quality.	
BN5	The branded food product has a consistent quality.	Lee (2004)
BN6	The branded food consumption makes me feel accepted in peers.	
BN7	The branded food gives me social approval.	
BN8	The brand label on the food package guarantees quality.	
BN9	Even though, the branded foods are a little expensive but they are better in quality.	

3.3.2 Section Two: Country of Origin (COO)

The overall perception that consumers form of products from a particular country, based on their prior perceptions of the country's production and marketing strengths and weaknesses. This definition has been adopted from Erickson *et al.* (1984). In this study the country of origin has been taken a food packaging cue which is presented in the form of label which impacts the perceived product quality of the consumers. The questions were asked on five point Likert scale where 1 was "strongly agree" and 5 was "strongly disagree". Table 3.10 represents the code and survey items for country of origin.

Table 3.10

Survey Items on Country of Origin

Code	Survey items/ Alpha	Source
COO1	Country of origin label promotes the positive image of the source country.	Qasem *et al.* (2016)
COO2	I am concerned about the country of origin of the food product.	
COO3	When purchasing the food product, I believe that Country of Origin label will determine sophistication and quality.	
COO4	To make sure what I buy is high in quality, I seek for the source country label.	

3.3.3 Section Three: Price (PR)

Price is the value given in exchange of something and price is an indicator of overall excellence of the product (Wang, 2013). However, in this research price is taken as a food packaging cues which conveys a certain sort of information regarding the quality of the product to the consumer. The questions were asked on five point Likert scale ranging from 1-5. 1 represented "strongly agree" and 5 represented "strongly disagree".

Table 3.11

Survey items on Price

Code	Survey items/ Alpha	Source
PR1	Higher quality is the consequence of higher price.	Abdul Latiff *et al.* (2016)
PR2	Packaged food items have an acceptable sale price.	
PR3	Packaged food items offer value for money.	
PR4	Packaged food items have a good quality for the price paid.	
PR5	I check the price while shopping for the packaged food.	
PR6	Regardless of other packaging cues, price is very important quality indicator for me.	
PR7	Price labels effect my purchase decision.	

PR8	I am concerned about low price but I am equally concerned about the quality.	
PR9	The old saying "you get what you pay for" is generally true.	

3.3.4 Section Four: Nutritional Labels (NL)

The labels displayed on the food packages which communicate the nutritional goodness to the consumers and these labels are regarded as the major source of information for the consumers to evaluate the product quality (Cheftel, 2005). This study takes nutritional label as a food packaging cue through which the consumer can perceive the quality of the product prior to usage. It is proposed in the study that nutritional label as a food packaging cue can impact perceived product quality. The table 3.12 represents the survey items of nutritional label.

Table 3.12

Survey items of Nutritional Label

Code	Survey items/Alpha	Source
NL1	Comprehensive nutritional information helps me to decide which food pack to buy.	
NL2	I read the nutritional label when I buy food package.	
NL3	I use nutritional label to choose and compare the packaged food items.	
NL4	Would you sacrifice health for taste.	
NL5	Nutritional label provides awareness about food quality.	
NL6	I believe nutritional label leads to quality food choice.	
NL7	The food product with nutritional label is safe and high in quality.	

3.3.5 Section Five: Precautionary Label (PL)

The labels displayed on the food package which communicates the potential of the presence of any allergen (DunnGalvin et al., 2015). This study considers precautionary label as an indicator of the quality for the food products. The table 3.13 discusses the survey items for precautionary label. The questions were asked from the respondents in the form of questionnaire on five point Likert scale.

Table 3.13

Survey items of Precautionary Label

Code	Survey items/Alpha	Source
PL1	Precautionary Label is the source of information regarding potential allergens.	Louriero *et al.* (2006)
PL2	I read the Precautionary Label when I buy food package.	
PL3	Product showing Precautionary Label with high risk of inducing an allergic reaction is higher in quality.	
PL4	Product displaying Precautionary Label with low or no risk of inducing any allergic reaction is higher in quality.	
PL5	There is an increased use of Precautionary Label in packaged food industry.	
PL6	Presence of Precautionary Label can improve the quality perceptions of the consumer regarding food	
PL7	Precautionary Label assists in making healthier and safer food choices	
PL8	I seek Precautionary Label very carefully on food packaging.	
PL9	I have strong interest in Precautionary Label as it is related to my health.	
PL10	Precautionary Label guarantees quality of food.	

3.3.6 Section Six: Halal Logo

Halal is defined as permissible by Islam (Mokhlis, 2009). If the product is any packaged food item with the Halal logo on it consumers perceive that this product is prepared and processed with all lawful instruments and permissible ingredients (Mellahi, 2003). Halal logo is taken a food packaging cue which communicates the information regarding perceived product quality of the product. The questions regarding Halal logo were prepared on five point Likert scale where 1 stood for "strongly agree" and 5 stood for "strongly disagree".

Table 3.14

Survey items of Halal logo

Code	Survey item/Alpha	Source
HL1	Halal logo is important for me when purchasing packaged food items.	Jamal and Sharifuddin, (2015)
HL2	The food products which have Halal logo on it have a better quality then competing products.	
HL3	The food products with Halal logo are in compliance with Shariah.	
HL4	Halal symbolized foods are reliable.	
HL5	Quality, safety and compliance with Islamic laws are the ultimate consequences of foods with Halal logo.	
HL5	I only prefer to buy products with Halal logo on it.	
HL7	I will choose Halal certified food product even at a higher price.	
HL8	Halal consumption makes a good impression of me in peers.	
HL9	The packaged foods available in market with Halal logo are high in quality.	
H10	Halal packaged food has a better taste than conventional foods.	
H11	Buying Halal symbolized food gives me inner satisfaction and peace	

3.3.7 Section Seven: Consumer Knowledge (CK)

The knowledge possessed by the consumer regarding the product is referred to as consumer knowledge (Alba, 2000). The use of prior knowledge has been studied in cognitive literature but the role of prior knowledge in food label usage is less studied. Based on the cognition procedure, consumers see the food labels, give an attention to it, try to understand and comprehend the food label and store it in the memory (Alba & Hutchinson, 2000).

In this study consumer knowledge is taken as construct which can impact on the relationships between food packaging cues negatively or positively. The questions related to consumer knowledge were asked on a five point Likert scale in which 1 stood for strongly agree and 5 represented strongly disagree.

Table 3.15

Survey items of Consumer Knowledge

Code	Survey item	Source
CK1	I feel confident about my knowledge of packaged food products.	Veale and Quester (2009)
CK2	I feel I know how to judge the quality of packaged food products.	
CK3	I do not feel very knowledgeable about packaged food items.	
CK4	Among my circle of friends, I'm one of the 'experts' on packaged food products.	
CK5	Knowledgeable consumers use packaging cues for perceiving the quality.	
CK6	Compared to most buyers, I know less about packaged food products.	
CK7	Compared to most buyers, I know more about packaged products.	
CK8	I know most of the packaged food items around in shops.	
CK9	When it comes to packaged foods products, I really don't know a lot.	
CK10	I can tell if any packaged food product is worth the price or not.	

3.3.8 Section Eight: Product Perceived Quality (PQ)

The quality is defined as the characteristics in the product that the consumer is looking for and which is close to the perceived judgments of the consumer (Maynes, 1976). The perceived product quality is taken a perceptions formed by the consumer regarding the quality of the packaged food before using it actually. The five point Likert scale was used to record the responses of the consumer in which 1 stood for "strongly agree" and 5 stood for "strongly disagree".

Table 3.16

Survey items of Product Perceived Quality

Code	Survey items	Source
PQ1	The nutrition information on food labels is useful to me.	Asshidin *et al.* (2016)
PQ2	I feel confident that I know how to use food labels to choose a packaged food.	
PQ3	I read food labels because good health is important to me.	
PQ4	Reading labels makes it easier to choose packaged foods.	
PQ5	Sometimes I try new foods because of the information on the food label.	
PQ6	Using food packaging cues to choose foods is better than just relying on my own knowledge about what is in them.	
PQ7	The food item with important food packaging informational cues is considered to be in superior in quality.	
PQ8	Positive product perception motivates the consumer to buy.	
PQ9	Perceived quality helps consumer to differentiate between the similar kinds of products.	

3.3.9 Section Nine: Demographics

This section consists of demographic questions related to age, gender, academic qualification and their income level. Age group consisted of four categories (1) 18-25, (2) 26-33, (3) 34-41 and (4) 41 and above. Academic qualification also has four categories (1) High school, (2) Bachelors, (3) Masters and (4) Doctorate.

3.4 Research Instrument

While adapting the questionnaire care was taken to prevent long sentences with difficult and complex terminologies, acronyms and abbreviations. Ambiguous, confusing and leading questions were avoided. The response classification was designed in the closed structure question format which was mutually exclusive and exhaustive in alignment with literature. The questionnaire was structured in a manner that similar topics were grouped to ensure the ease of understanding and flow. Demographic questions were added purposively at the end of questionnaire by following the arguments that these questions are threatening or boring (Sudman & Bradburn, 1982; Rattray & Jones, 2007).

In line with the suggestions given by McColl *et al.* (2001), formatting features were applied to the questionnaire. Vertical format for closed ended questions with a font size of 10 and a high text background was incorporated. Following the arguments the self-administered questionnaire would be short in length and comprise of mostly closed ended questions (Edwards *et al.*, 2002; McColl *et al.*, 2001). Even if the questionnaire was adapted, keen attention was given to readability of the instrument.

3.4.1 Measurement Scale

The questionnaire employed two scales namely interval and nominal. Interval scale is used to measure behaviour or personality for example perceptions, attitudes and beliefs. This scale allows researcher to measure the magnitude of differences in preferences. The interval scale has been employed mainly in the section one, two, three, four, five, six, seven and eight to collect the data on the impact of food packaging cues on food quality perceptions. Nominal scale was employed in section nine to categorize the respondents.

3.4.2 Scaling Design

This particular study used Likert scale to measure the responses since this scale is widely used in various areas such as marketing and behavioural sciences. A Likert scale is an orderly scale from which respondents choose the option that best supports their opinion. It can be used to measure someone's attitude by measuring the extent to which they agree or disagree with a particular question or statement. This scale is basically constructed on five response levels or seven response levels. Employing the five point Likert scale is as good as any other (De Winter & Dodou, 2010). Five point Likert scale has been chosen to reduce any confusion to the participants and to ensure uniformity among items. On the scale (1) stood for "strongly agree" and (5) stood for "strongly disagree".

3.5 Control for the Measurement of Error

The error of measurement arises because of various reasons for instance, data entry error, error in instrumentation and operationalization. The responses of the respondents can also be a source of error as some of the respondents might behave differently and respond in opposite manner which could lead to error. In the study, it the error of measurement was kept at its lowest level by employing validity and reliability tests in the pilot as well as in the main study. Face validity and content validity were carried out within the instrument

development stage. This study employed variance based structural equation modelling (SEM) using Smart PLS 3.0 software developed by Ringle *et al.* (2012) which seeks to ensure that measurement errors are minimized and duly accounted for, right from the beginning of drawing the measurement model.

3.6 Data Analysis Strategy

Data analysis of the study was done by using combination of descriptive and inferential analysis. Statistical package of social sciences (SPSS) was used to carry out the descriptive analysis to obtain a general understanding as well as for profiling the respondents. SPSS was used for summarizing the data, making various tabular presentations and for measuring the frequency of occurrence of the outcomes.

On the other hand, for making predictions from the data, inferential analysis was conducted using SEM because of more than one reason as follows: Firstly, it studies all equations simultaneously and then tries to detect the extent and direction of relationships among the variables; Secondly, it takes into account the measurement errors. Thirdly, it can facilitate the modelling of complex models. Fourthly, it can differentiate and estimate with precision the reflective and formative measures. Lastly, it is in line with the modern trend as it is categorically required by the highly indexed journals and also Hair *et al.* (2010) supports the use of it for highest precision as on date. As such, this study resorted to conducting inferential analysis using variance based SEM through Smart PLS software (Ringle *et al.*, 2012). This SEM software has its own strengths as it can easily analyse different kind of measures and it is free of any assumption.

3.6.1 Structural Equation Modelling (SEM)

Hair *et al.* (2010) describes that the basic purpose of structural equation modelling (SEM) is to configure inter linked interactions among the latent variables which are measured by observed variables. Schumacker and Lomax (2010) argue that SEM possess the ability to depict the connections among the observed variables by providing the quantitative results after hypothesis testing. Usually, SEM is regarded as confirmatory instead of an exploratory technique. In addition to analysing latent constructs, SEM also seeks to facilitate other kinds of investigations like variance and covariance estimation, linear regression, hypothesis testing, and confirmatory factor analysis (CFA) (Jöreskog & Sörbom, 1996). Barclay *et al.* (1995) stated that PLS has an ultimate potential to deal with the complex models due to its predictive orientation. As argued by Ringle *et al.* (2012) PLS is said to be the most powerful SEM tool of the current age. Gefen and Straub (2005) describe that PLS executes confirmatory factor analysis to see the strength of the relationship among items and constructs. Convergent and discriminant validities are measured simultaneously in PLS (Gefen & Straub, 2005). Both of the validities were measured for this particular study, the model was tested for the goodness of fit and for moderating effect.

According to Hair *et al.* (2010), structural equation modelling possess the ability to measure the unidimensionality as well as reliability and validity for the same construct. The overall fitness of the model is simultaneously tested with the simultaneous checking of the individual parameters. According to *Chin et al.* (1998), basically SEM has two basic approaches towards it which are Covariance based SEM (CBSEM) and variance based SEM (VBSEM). Covariance based SEM utilizes the parameters of the model for the estimations however, PLS using variance based SEM does the estimations using case values (Haenlein & Kaplan, 2004). Additionally, partial least square analysis has an ability

to process almost all kids of simple to complex model with precision. The reason for opting PLS was due to its processing ability of variety of models as well as its predictive nature. All the relationships in the theoretical framework are have been presented in the form of path diagrams in order to present the hypothesized relationships. Two stage approach was followed in the study in order to obtain the results of the analysis. According to Anderson and Gerbing (1982), two stage approach means measurement model should be estimated first and structural model should be subjected for analysis.

3.7 Content and Face Validity

Content validity is an evaluation of how well the contents of the scale represent the measures. The items of the scale should be well examined by the experts that either the instrument gives adequate coverage to the concept or not. When it seems satisfactory to the experts about the coverage, the instrument is said to have content validity (Zikmund, 2000). In this particular study, the content validity of the questionnaire was achieved by adapting the items from previous researches assessed by forwarding it for review by few experts to examine it and revision was done upon their feedback. Furthermore, Sekaran (2003) had asserted, face validity indicates that the items that are intended to measure a concept, do on the face of it look like they measure the concept. Ideally, to conduct face validity, the instrument is shown to some target respondents and their opinions are sought. This study approached six potential respondents for this purpose and ask for their suggestions about appropriateness of item statements and their wordings, instructions, general formatting, comprehension of scales leading to any kind of possible difficulty in answering and overall completeness of the instrument. Their suggestions were taken into consideration for finalizing the questionnaire for conducting the pilot test.

3.8 Pilot Study

Pilot study was conducted for assessing the reliability as well as the validity of the questionnaire. Pilot testing gives an idea regarding the potential problems which a researcher could face during the main data collection. Gay *et al.* (2006) argue that pilot study is a small scale study conducted to get an idea regarding the full-fledge study. As the study comprises of all the reflective measures for the dimensions, hence internal consistency like Cronbach alpha was needed to be calculated. Petter *et al.* (2007) as well as Jarvis *et al.* (2003) describe that internal consistency basically shows that how all the items are steady and measure what they are supposed to measure. The pilot testing of questionnaire was done in order to clarify and validate the items and scale of the instrument. This process is necessary because although a vast number of items have been adopted from the past studies but adjustments have been done according to the Pakistani market context. Sommer and Sommer (1991) argue that "*the impressive economy of the questionnaire is partially offset by the researcher's inability to clarify the meaning of terms*" (p. 138).

During the process of pilot testing the instrument was distributed among small sample of consumers having the same characteristics as needed in actual survey. The main purpose was to conclude the effectiveness of the questionnaire and to establish either any future revision of instrument is needed or not. Additionally pilot testing ensured the validity and relevance of questions. The pilot testing was done with 84 Pakistani consumers. The respondents were encouraged to be free and honest in their choices. After completion of the questionnaire respondents were asked about the meaning of the questions which will give the researcher an idea regarding comprehension and clarity of the questions.Several methods are available for the determination of reliability however Cronbach' alpha is the most commonly used method. For this study, the method of Cronbach's alpha was applied to assess the reliability.

This method has been used by several other researches in consumer behaviour discipline for instance (Delene, 1994; LaBarbera & Gurhan, 1997; Esso & Dibb, 2004). The value of Cronbach's alpha should range from 0 to 1. Values near to 1 are considered to be more reliable. Nevertheless, the level of acceptance is an argumentative issue. In some cases reliability value of 0.5 to 0.6 is acceptable (Kerlinger & Lee, 2000).

3.8.1 Reliability Test

Measuring the internal consistency of the items ascertained for the construct is termed as reliability (Hair *et al.*, 2010). Following the suggestion of Davis (2000) as well as Sekaran (2003), Cronbach alpha was used in this study for measuring the reliability. The Cronbach's alpha coefficient primarily tends to reflect the items 'consistency and as such, higher Cronbach's alpha values indicate higher consistencies which further reflect a higher tendency to measure the intended construct.

Table No: 3.17

Reliability Coefficient

Serial No	Construct	Cronbach Alpha	No .of Items	Items	Alpha if item is deleted
1.	Brand Name	0.836	9	BN1	0.820
				BN2	0.825
				BN3	0.821
				BN4	0.811
				BN5	0.821
				BN6	0.823
				BN7	0.812
				BN8	0.810
				BN9	0.828

Serial No	Construct	Cronbach Alpha	No .of Items	Items	Alpha if item is deleted
2.	Country of Origin	0.806	4	COO1	0.797
				COO2	0.705
				COO3	0.709
				COO4	0.800
3.	Price	0.801	9	PR1	0.826
				PR2	0.779
				PR3	0.783
				PR4	0.760
				PR5	0.768
				PR6	0.771
				PR7	0.776
				PR8	0.774
				PR9	0.785
4.	Nutritional label	0.707	7	NL1	0.631
				NL2	0.663
				NL3	0.690
				NL4	0.733
				NL5	0.650
				NL6	0.668
				NL7	0.672
5.	Precautionary label	0.849	10	PL1	0.845
				PL2	0.837
				PL3	0.829
				PL4	0.830
				PL5	0.835
				PL6	0.841
				PL7	0.835
				PL8	0.837
				PL9	0.834

Serial No	Construct	Cronbach Alpha	No .of Items	Items	Alpha if item is deleted
				PL10	0.829
				HL1	0.899
				HL2	0.897
				HL3	0.888
				HL4	0.901
				HL5	0.890
6.	Halal logo	0.903	11	HL6	0.900
				HL7	0.894
				HL8	0.891
				HL9	0.894
				HL10	0.893
				HL11	0.894
				CK1	0.912
				CK2	0.900
				CK3	0.902
	Consumer knowledge			CK4	0.898
7.		0.911	10	CK5	0.903
				CK6	0.902
				CK7	0.897
				CK8	0.903
				CK9	0.904
				CK10	0.904
				PQ1	0.874
				PQ2	0.872
				PQ3	0.867
				PQ4	0.870
8.	Perceived quality	0.851	9	PQ5	0.862
				PQ6	0.863
				PQ7	0.860
				PQ8	0.869
				PQ9	0.875

The table 3.16 shows all the alpha values for the constructs. It can be evidently seen that most of the reliability coefficients are above 0.7 which shows that constructs are reliable. However, the minimum value of reliability is being shown by the construct of 'nutritional label' (0.707) and the largest value is being depicted by consumer knowledge (0.911).

Table 3.18

Reliability Coefficient

Cronbach Alpha	Construct wise Alpha	Alpha if item deleted
	Brand name	0.872
	Country of origin	0.897
	Price	0.882
	Nutritional label	0.878
	Precautionary label	0.867
	Halal logo	0.862
	Consumer knowledge	0.869
	Perceived quality	0.873

Table 3.18 shows the average reliability of the overall questionnaire and the constructs. Since, all the constructs and items have shown the reliability coefficient in the acceptable range, none of them was deleted on this basis. As a whole, all items included in the instrument sufficiently proved to reflect an adequate level of internal consistency pertaining to their respective measures.

3.8.2 Construct Validity

Construct validity is the approach to validate a measure by determining what construct, concept or trait the instrument in fact is measuring (Churchill & Iacobucci, 2006). There are two major types of construct validity (1) convergent validity (2) discriminant validity. Convergent validity illustrates the homogeneity of the scale whereas discriminant validity refers to the heterogeneity of the constructs, that is, the extent to which the measure is unique from other measures (Malhotra *et al.*, 1999). Is this particular study in terms of validity we expect to see an item related to the items which measure the same construct (convergent validity) and on the other hand different from the items which measure different constructs (discriminant validity). Both types of validities were gauged by using factor analysis.

Sekeran (2003) state that even though the instrument possess reliability but they do not necessarily imply goodness of the measurements. The instrument might lack the aspect of validity. The judgmental assessment regarding the questionnaire and its constructs by the experts is called the content validity. Construct validity is performed to ascertain that a test is evaluating the construct it was actually supposed to (Brown, 1996). To ensure the overall validity, construct validity was deemed necessary. In order to check the construct validity of the study factor analysis was performed using SPSS. As the sample size for pilot study was comparatively smaller, this study resorted to examining factor analysis on each construct separately in line with the studies (Ahire *et al.*, 1996; Al-Swidi, 2012).

3.9 Summary

This chapter proposed the research methodology of the study. It presented the conceptual definitions of key constructs, the population of the study, sample size, sample technique, data collection and pilot study. First of all it enclosed the research design and arguments on the selecting the quantitative research design. Secondly, the above chapter presented the operational definitions and piloting of questionnaire were presented. Finally, the pilot test and its results were shown and explained in the chapter

CHAPTER 4

RESULTS

4.1 Introduction

This chapter briefly discusses response rate, data screening and preliminary analysis. A comprehensive discussion has been included on test of common method variance. Further sections describe the profiles of the respondents, detail about descriptive analysis, evaluation of model quality, revised theoretical framework of the study and evaluation of inner as well as outer models. Finally the chapter delineates into hypothesis testing of both direct and interaction paths, discussion of findings and the summary of the chapter.

4.2 Response Rate

The data was obtained from the malls of the two big cities of Pakistan. According to the design of the study it was found appropriate to survey 504 general consumers in the shopping complexes across the malls of Islamabad and Rawalpindi. Although the decided sample size for study was hefty enough to accommodate for the error issues, yet further supplementary data was collected in the scientific sampling scheme. Besides, it is an eminent fact while conducting the survey is that the sample must be an appropriate illustrative of the target population. The truly representative sample makes it an absolute fit for estimation the population parameters. As the data for the study was collected following a rigorous sampling yet there is a chance of bias because of any overlooked sample or due to any inadequacy while measurements. The researcher overcame the issues of late respondents by collecting the data personally from the consumers directly at the shopping complexes by adhering to the fixed schedule.

According to Hamilton (2009), the response rate is calculated by the number of respondents who responded to the questionnaire by the sample size which was determined for the study. Out of 504 distributed questionnaires all of them were received back on the spot by the researcher, attaining the goal of 100% response rate however, 478 questionnaires were rendered usable out of 504 distributed questionnaires hence achieving a valid response rate of 95%. As there was direct contact with the respondents there was no issue of questionnaire rejection on the grounds of unreturned questionnaires. However, the researcher came across the issue of consumers' unwillingness to participate in the survey which is considered to be normal in surveys. All the questionnaires were observed promptly after being filled by the respondents. Even though, adequate care was taken, 26 questionnaires were found with missing responses while data key in and rendered unusable. Table 4.1 shows the response rate and table 4.2 shows summary of general response rate.

Table 4.1

Summary of Response Rate

City	Malls	Population	%age of sample	Questionnaire distributed	No. of responses	Response rate
Isb	C M	1700	10.5%	53	53	100%
Isb	B C	1600	9.9%	50	50	100%
Isb	K M	1900	11.8%	60	60	100%
Rwp	CSD Mall	2600	16.1%	81	81	100%
Rwp	CSD Super Mall	2300	14.3%	72	72	100%
Rwp	G V P hyper mart	2800	17.4%	88	88	100%
Rwp	R M	3200	19.8%	100	100	100%
		16100	100%	504	504	100%

(Isb= Islamabad, Rwp= Rawalpindi, CM= Centaurus mall, BC= Beverly centre, KM= Kohsar mall, CSD= Cantonment store departments, GVP= Green valley premium, RM= Rafay Mall)

Table 4.2

Summary of General Response Rate

No. of distributed questionnaires	504
No. of returned questionnaires	504
No. of unreturned questionnaires	0
Ratio of response rate	100%
No. of incomplete questionnaires	26
No. of final usable questionnaires	478
Ratio of valid response rate	95%

4.3 Data Screening and Preliminary Analysis

Data screening is the initial and foremost step prior to implementing the statistical data analysis techniques. The distribution of data has an impact on the data analysis techniques (Byrne, 2010). In this research, PLS techniques are applied to assess the quality of the data. Before carrying out further analysis data screening was conducted specifically for treatment of the missing values. According to Schumacker and Lorex (2004), structural equation modelling (SEM) cannot be carried out in the presence of any missing values. Kristensen and Eskildsen (2010) further advocated that excellence of data analysis majorly relies on the data organization and its appropriate transfiguration for analysis.

4.3.1 Handling Missing Values

Sekaran and Bougie (2010) argue that the missing data can arise because of various situations for instance incapability to understand the questions, trouble in responding to questions or unwillingness on the part of respondent to answer. Hair *et al.* (2010) advocated that missing data is a normal situation that commonly arises during data analysis phase. Various researchers have suggested different methods for handling of missing data.

Literature reveals various methods for dealing with the missing values which include replacing, distributing and dropping those (Tsikriktsis, 2005). The method being suggested by Tabachnic & Fidell (2007) is to drop the case. On the other hand Hair *et al.* (2010) proposes that missing values should be replaced with the means in SPSS if there is are less number of missing responses. While entering the data into SPSS, 17 cases were reported to have missing values of the items. As the values were not present, taking into consideration the suggestion of Hair *et al.* (2010) they were replaced with their means and forwarded for further analysis.

Table 4.3

Missing Value Items

Variables	No. of missing values
Brand name	2
Country of origin	2
Price	3
Nutritional label	2
Precautionary label	3
Halal logo	1
Consumer knowledge	2
Perceived quality	2

4.3.2 Outliers

The observations the data which have an abnormal distance from the remaining other values in the sample which has been randomly selected from the population is called an outlier. Outliers in reality are the abnormal values which do not follow the general trend of the rest of the data. The outliers can arise due any measurement error or an experimental error. In order to deal with the outliers, the value of that observation can be changed by using nearest value of an observation which has the maximum possibility of not being an

outlier (Dixon, 1980). That abnormal observation could also be deleted. However, for this study the outliers were tested using Microsoft excel where all the observations were made into ascending order. It was evident that all the values lie in the range of 1 -5. 1 is the minimum value and 5 is the maximum value for the data set. All the observations were into this range and there was no abnormal value.

4.3.3 Normality

Normality is a measure to check whether the data is symmetric or not. The normality of the data set with a smaller sample size is easier to handle for normality however large sample which are above N=500 have issues of normality naturally. According to Ghasemi and Zahediasl (2012), the normality cannot cause major issues within the large samples of 500 and more. With a sample size of 500 or over it many parametric tests are still reliable even for non-normal data - this is known as robust use. The particular conditions for robust use will depend upon the test you are using. Following the study of Kline (2011), the skewness and kurtosis is considered not to be having any severe issues if the value of skewness lies below 3 and that of kurtosis below 10. Same parameter for checking normality were used by Yadhav and Patak (2016). It could be evidently seen in the plot below, Figure 4.1 that data is not severely shattered however small deviations are due to large sample size of 504 which is considered to be natural for bigger samples.

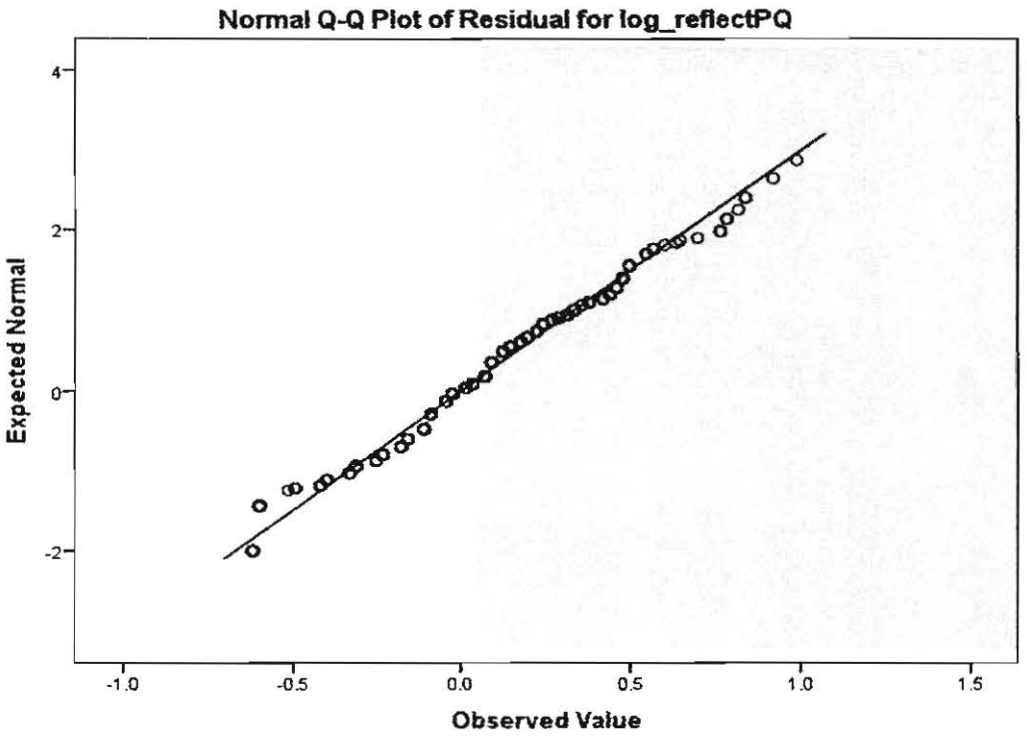

Figure 4.1

Normality Plot

4.3.3 Multicollinearity Test

Multicollinearity occurs when two exogenous variables are highly correlated with each other (Hair *et al.*, 2010). According to the Chatterje and Yilmaz (1992) having high multicollinearity increases the chances of errors and damages the regression values. Although, using PLS minimizes the need of normality tests, Hair *et al.* (2010) suggests the need of multicollinearity test prior to examining any theoretical model. The two methods applied in this study for checking multicollinearity which are correlation matrix and second method is condition index. Having a correlation coefficient of 0.9 or above indicates that multicollinearity exists. In order to fulfil the condition for multicollinearity condition index should be less than 30, tolerance value should be not be less 0.20 and variance inflated factor (VIF) should be less than 5.

Table 4.4 and appendix B shows that coefficients of correlations were less than 0.90, tolerance values were above 0.20 and VIF values were less than 5. Thus, multicollinearity did not exist in the study.

Table 4.4

Multicollinearity Test

Variables	Tolerance	VIF	Condition Index
Brand Name	0.725	1.380	14.374
Country of origin	0.684	1.462	17.074
Price	0.547	1.828	22.723
Nutritional label	0.521	1.921	24.991
Precautionary label	0.422	2.368	26.194
Halal logo	0.493	2.027	30.363
Consumer knowledge	0.976	1.025	32.353

4.4 Test for Common Method Variance

Podsakoff *et al.* (2003) states that common method variance is attributable to method of measurement. MacKenzie and Podsakoff (2012) as well as Spector (2006) stressed on the importance of application of common method variance test in surveys. In order to check common method variance, Harman's single factor test was applied. If considerable volume of variance exists than either one single factor might emerge or one factor might account for the covariance present among independent and dependent variables (Harman, 1976). The analysis clearly depicted that no single value accounted majorly for the covariance (first factor explained 25.542%) which is clearly less than 50% (Appendix B). The values suggest that common method bias is not a main apprehension and it is unlikely to inflate any relationships.

4.5 Respondent Profile

For a comprehensible discussion of results, it is necessitated to understand the profile of the respondents. Table 4.5 shows the clear canvas of the profiles of the respondents. Total of 478 respondents were put to analysis.

Table 4.5

Respondent Profile

Demography	Indicator	Frequency	Percentage
Gender	Male	193	40.4
	Female	285	59.6
Education	High school	206	43.1
	Bachelor	167	34.9
	Masters	71	24.5
	Doctorate	34	7.1
Age Group	18-25	160	33.5
	26-33	167	34.9
	34-41	117	24.5
	41-above	34	7.1

The results exhibit that 59.6% of respondents who participated in the survey were female however, 40.4 of the participants were males. The female respondents are more in number as the study is related to packaged food cues and impact on quality as well as the data was collected from shopping malls, women were more likely to be encountered. Most of the household decisions are made by females in the country and they are doing the grocery shopping for the family as well. Furthermore, 43.1% of the participants of the study possessed high school qualification and 34.5% possess bachelors. This shows clearly that most of the participants were educated enough to understand the purpose of the research.

Most of the respondents were high school qualified and the secondly the respondents held bachelor degree. Academic qualification of masters was acquired by 24.5 % of the respondents and doctorate was held by 7.1% of the consumers. Thereafter, 33.5% of the respondents fall into the age bracket of 18-25 years. Maximum respondents 34.9% were found to be in the age limits of 26-33 years. Rest of 24.5% of the consumers were in age limit of 34-41 years and 7.1 of the remaining consumers were 41 years and above. The demographics of the age show that respondents were young as the young people have a changing life style and they are adapting to modernization and undergoing urbanization.

4.6 Descriptive Analysis

The descriptive analysis is performed in order to describe the primary features of the data set. Sekaran and Bougie (2010) state that descriptive analysis is basically explained via mean, standard deviation, variance in order to obtain a general view about how the respondents have responded to questionnaire.

Table 4.6

Descriptive Statistics

Construct	N	Minimum	Maximum	Mean	Standard Deviation
Brand name	478	1	5	4.103	0.5746
Country of origin	478	1	5	3.8316	0.8513
Price	478	1	5	3.9979	0.6455
Nutritional label	478	1	5	3.7417	0.6617
Precautionary label	478	1	5	3.975	0.6527
Halal logo	478	1	5	4.0827	0.6368
Consumer knowledge	478	1	5	4.106	0.7077
Perceived quality	478	1	5	4.0553	0.6787

Five points scale 1= strongly agree, 5= strongly disagree

The outcomes of the descriptive analysis depict that the mean of all the variables lies in between 3.7417 to 4.106. These values lie in a tolerable range as well as they are all above the average value. The scores of standard deviation lies between the ranges of 0.5746 to 0.8513 which are among the acceptable range. It can be explicitly established that all the variables possess an adequate and reasonable level of implementation.

4.7 Partial Least Square (PLS) Structural Equation Modelling Approach

This particular study implants structural equation modelling (SEM) for hypothesis testing. Two most popular approaches in SEM are covariance based approach and variance based approach. Covariance based structural equation modelling (CBSEM) is confirmatory in nature however variance based structural equation modelling (VBSEM) is prediction oriented. Models with complex nature and numerous latent and manifest variables can be estimated easily. Partial least squares (PLS) does not require any assumptions of sample size, normality etc. Tests for normality such as skewness, kurtosis and Kolmogorov-Smirnov are not required for using smart PLS. It is free of any kind of limiting constraints which makes it a good choice for data analysis and hypothesis testing. Factor analysis and path analysis, both approaches can be used in structural equation modelling. SEM being a unification of both the approaches, concurrently examines both the facets of the model which are measurement model and structural model. Measurement model is measured conventionally by factor analysis and structural model is estimated through path analysis.

According to Hensler (2010), traditionally CBSEM used to be a popular approach but currently in recent arena, VBSEM is appreciated because of its benefits regarding the factor indeterminacy and convergence issues. Reinartz *et al.* (2009) advocated that VBSEM has simple distribution assumptions. Haenlein and Kaplan (2004) presented that VBSEM has an ability to measure the formative constructs also.

PLS path modelling was performed in order to explain the relationships in this study. Path modelling was performed majorly in two parts: firstly for the outer model (measurement model) and secondly for the inner model (structural model). The outer model describes the nexus among unobserved and observed variables whereas, the link between latent variables are clarified in inner model. Moving on further, as the study contains of all the reflective indicators. Analogous to regression, PLS attempts to maximize the variance of criterion variable explained through predictor variables. The outcomes of PLS path modelling are being described in the upcoming sections of the chapter.

4.8 Evaluation of Outer Model (Measurement Model)

Reliability and validity are the basic standards for measuring the measurement (outer) model (Hair *et al.*, 2013). According to Sekaran (2003) reliability measures the consistency of measuring instrument whatever it is measuring whereas validity measures how well the instrument measures for which it is intended to measure. The assessment of outer model largely depends on the nature of model either it is comprised of reflective or formative measures. Reflective measures indicate that the indicators are caused by the construct with same fundamental concept. The loading value between each item and construct is an important indicator. If the loadings are low, that explains a feeble explanatory power, on the other hand high loadings reflect higher explanatory power.

Construct validity evaluates the degree to which the results obtained from measure are appropriate about the theory around which it is designed (Sekaran, 2003). The construct validity is of three basic types: first content validity, second convergent validity and third discriminant validity.

4.8.1 Content Validity

The content validity connotes the suitability of the indicators to measure the main concept under the study. Moving on further, principal component analysis (PCA) is preferred by Vinzi *et al.* (2010) as well as Bohrnstedt (1970). Principal component analysis (PCA) is being used by Smart PLS, hence it was used to generate all the factor loadings for the indicators. It is necessitated that the respective items must portray highest loadings on theory construct as compared to any other construct. All the indicators selected for the study were selected only after assuring that they belong to the respective constructs. Even though the indicators were sound yet factor analysis was performed in order to support statistically. Table 4.7 clearly exhibits that the loadings of all the items are highest on their own constructs then other constructs. All the indicators have significantly high loadings.

It is elaborated by Chan (2003) and supported by Krause *et al.* (2008) the criteria for item loading by terming that loading which is less than 0.3 is poor. The factor loading which lies within the range of 0.31 to 0.50 is fair. If the values lie among 0.51 to 0.60 they are supposed to be moderate. 0.61 to 0.80 are considered to be moderately strong and 0.81 to 1 are very strong. Table 4.7 shows that all the indicators have loadings higher than 0.61 which moderate or strong loading for every indicator.

Table 4.7

Cross loadings

	BN	CK	COO	HL	NL	PL	PQ	PR
BN1	**0.737**	0.096	0.242	0.287	0.278	0.292	0.275	0.288
BN2	**0.752**	0.104	0.158	0.206	0.240	0.243	0.282	0.260
BN3	**0.704**	0.112	0.215	0.214	0.292	0.227	0.263	0.299
BN4	**0.726**	0.149	0.225	0.277	0.297	0.274	0.317	0.294
BN5	**0.684**	0.133	0.261	0.318	0.239	0.294	0.326	0.320
BN6	**0.670**	0.113	0.249	0.303	0.253	0.295	0.297	0.199
CK1	-0.001	**0.701**	0.029	0.078	0.013	0.034	0.054	0.014
CK10	0.086	**0.710**	0.046	0.115	0.090	0.081	0.108	0.077
CK2	0.044	**0.734**	0.058	0.083	0.041	0.084	0.070	0.045
CK4	0.071	**0.778**	0.048	0.126	0.088	0.114	0.065	0.089
CK5	0.109	**0.794**	0.068	0.134	0.122	0.153	0.100	0.204
CK6	0.229	**0.801**	0.219	0.310	0.200	0.280	0.346	0.167
CK7	0.107	**0.789**	0.093	0.161	0.095	0.107	0.135	0.077
CK8	0.092	**0.826**	0.089	0.094	0.100	0.129	0.171	0.095
COO1	0.229	0.092	**0.775**	0.464	0.229	0.314	0.316	0.256
COO2	0.259	0.118	**0.856**	0.416	0.270	0.317	0.312	0.344
COO3	0.299	0.175	**0.859**	0.454	0.274	0.352	0.358	0.344
COO4	0.208	0.080	**0.648**	0.253	0.396	0.368	0.233	0.240
HL1	0.272	0.170	0.331	**0.635**	0.312	0.486	0.435	0.368
HL3	0.248	0.137	0.267	**0.678**	0.233	0.310	0.384	0.277
HL4	0.275	0.054	0.419	**0.719**	0.339	0.400	0.490	0.302
HL5	0.264	0.190	0.357	**0.741**	0.283	0.405	0.411	0.355
HL6	0.228	0.185	0.394	**0.705**	0.282	0.317	0.363	0.313
HL7	0.262	0.237	0.398	**0.806**	0.360	0.438	0.428	0.347
HL8	0.294	0.150	0.415	**0.728**	0.423	0.476	0.403	0.372
HL9	0.315	0.211	0.328	**0.679**	0.402	0.540	0.383	0.328
NL1	0.310	0.102	0.285	**0.424**	0.719	0.429	0.374	0.370

	BN	CK	COO	HL	NL	PL	PQ	PR
NL2	0.266	0.142	0.205	**0.235**	0.739	0.397	0.292	0.305
NL3	0.264	0.084	0.306	**0.328**	0.752	0.402	0.401	0.341
NL5	0.270	0.158	0.236	**0.384**	0.721	0.417	0.342	0.411
NL6	0.231	0.094	0.236	**0.273**	0.665	0.474	0.315	0.317
PL10	0.305	0.176	0.240	**0.442**	0.414	0.692	0.446	0.371
PL4	0.251	0.083	0.384	**0.441**	0.440	0.701	0.452	0.407
PL5	0.215	0.133	0.262	**0.324**	0.376	0.647	0.354	0.293
PL6	0.297	0.195	0.359	**0.445**	0.445	0.711	0.447	0.365
PL7	0.223	0.148	0.277	**0.363**	0.325	0.729	0.371	0.223
PL8	0.259	0.162	0.291	**0.450**	0.467	0.750	0.429	0.303
PL9	0.332	0.146	0.271	**0.456**	0.430	0.732	0.439	0.349
PQ1	0.322	0.222	0.339	**0.413**	0.319	0.442	0.712	0.343
PQ2	0.308	0.171	0.344	**0.529**	0.383	0.480	0.743	0.373
PQ3	0.312	0.151	0.361	**0.378**	0.397	0.471	0.726	0.282
PQ4	0.264	0.167	0.280	**0.423**	0.394	0.449	0.722	0.289
PQ5	0.273	0.152	0.276	**0.443**	0.350	0.452	0.785	0.368
PQ6	0.355	0.212	0.261	**0.408**	0.329	0.400	0.777	0.390
PQ7	0.340	0.208	0.289	**0.470**	0.414	0.455	0.758	0.389
PQ8	0.268	0.164	0.236	**0.400**	0.316	0.392	0.724	0.285
PQ9	0.253	0.145	0.097	**0.293**	0.210	0.313	0.537	0.133
PR4	0.314	0.094	0.322	**0.379**	0.319	0.405	0.412	0.728
PR5	0.223	0.136	0.242	**0.247**	0.341	0.279	0.244	0.722
PR6	0.345	0.116	0.237	**0.299**	0.394	0.345	0.301	0.775
PR7	0.276	0.093	0.263	**0.299**	0.403	0.311	0.307	0.752
PR8	0.272	0.128	0.315	**0.464**	0.364	0.373	0.353	0.741

Subsequently, table 4.8 shown below presents that every indicator is loaded significantly on the respective construct at the significance level of 0.01%. All the items of the model under study have an appropriate loading. The t-values as well as the corresponding p-values coincide with the factor loadings.

Table 4.8

Factor loadings' significance

Variable	Item	Loading	p-value
Brand Name	BN1	0.737	0.000
	BN2	0.752	0.000
	BN3	0.704	0.000
	BN4	0.726	0.000
	BN5	0.684	0.000
	BN6	0.670	0.000
Consumer Knowledge	CK1	0.701	0.000
	CK10	0.710	0.000
	CK2	0.734	0.000
	CK4	0.778	0.000
	CK5	0.794	0.000
	CK6	0.801	0.000
	CK7	0.789	0.000
	CK8	0.826	0.000
Country of origin	COO1	0.775	0.000
	COO2	0.856	0.000
	COO3	0.859	0.000
	COO4	0.648	0.000
Halal logo	HL1	0.635	0.000
	HL3	0.678	0.000
	HL4	0.719	0.000

Variable	Item	Loading	p-value
	HL5	0.741	0.000
	HL6	0.705	0.000
	HL7	0.806	0.000
	HL8	0.728	0.000
	HL9	0.679	0.000
Nutritional label	NL1	0.719	0.000
	NL2	0.739	0.000
	NL3	0.752	0.000
	NL5	0.721	0.000
	NL6	0.665	0.000
Precautionary label	PL10	0.692	0.000
	PL4	0.701	0.000
	PL5	0.647	0.000
	PL6	0.711	0.000
	PL7	0.729	0.000
	PL8	0.750	0.000
	PL9	0.732	0.000
Perceived product quality	PQ1	0.712	0.000
	PQ2	0.743	0.000
	PQ3	0.726	0.000
	PQ4	0.722	0.000
	PQ5	0.785	0.000
	PQ6	0.777	0.000
	PQ7	0.758	0.000
	PQ8	0.724	0.000
	PQ9	0.537	0.000
Price	PR4	0.728	0.000
	PR5	0.722	0.000
	PR6	0.775	0.000

Variable	Item	Loading	p-value
	PR7	0.752	0.000
	PR8	0.741	0.000

4.8.2 Convergent Validity

Convergent validity is defined as the degree of convergence between the items (Ramayah *et al.*, 2004). In an attempt to explain the convergent validity, researchers attempt to explain the fact that constructs are theoretically related to each other. Following the suggestion of Hair *et al.* (2013) three techniques exist for examining convergent validity namely factor loading (outer loading), average variance extracted (AVE) and composite reliability as well as Cronbach's alpha. The values of factor loading demonstrate the strength of each item on its respective construct. According to Fornell & Larker (1981) suggestion, the items with loading higher than 0.50 or more is acceptable for multivariate analysis.

It can be evidently seen in the Table 4.9 that loadings of all the items are well above the minimum acceptable range of 0.50. Composite reliability is the extent to which the items seek to designate the latent construct (Hair *et al.*, 2011). The ideal value for composite reliability suggested by Fornell and Larcker (1981) and Hair *et al.* (2010) is 0.70. It can be seen in the Table 4.8 that all scores for composite reliability lie between the ranges of 0.768-0.916. Average variance extracted (AVE) is the third criteria for determining the convergent validity of the model. The ideal scores being suggested by Fornell and Larcker (1981) and Hair *et al.* (2010) for average variance extracted (AVE) are above 0.50. As it is presented in the table 4.8 that all the values of AVE fall within the range of 0.508 to 0.623. All the results affirm that convergent validity exists in the model.

Table 4.9

Results of measurement model- convergent validity

Variables	Items	Loadings	Composite Reliability	Cronbach alpha	AVE
			0.861	0.806	0.508
	BN1	0.737			
	BN2	0.752			
Brand name	BN3	0.704			
	BN4	0.726			
	BN5	0.684			
	BN6	0.670			
			0.867	0.794	0.623
	COO1	0.775			
	COO2	0.856			
Country of origin	COO3	0.859			
	COO4	0.648			
			0.861	0.800	0.553
	PR4	0.728			
	PR5	0.722			
Price	PR6	0.775			
	PR7	0.752			
	PR8	0.741			
			0..843	0.768	0.518
	NL1	0.719			
	NL2	0.739			
	NL3	0.752			
Nutritional label	NL5	0.721			
	NL6	0.665			
			0.876	0.835	0.503
	PL4	0.701			
	PL5	0.701			
Precautionary label	PL6	0.711			
	PL7	0.729			

Variables	Items	Loadings	Composite Reliability	Cronbach alpha	AVE
	PL8	0.750			
	PL9	0.732			
	PL10	0.692			
			0.892	0.861	0.508
	HL1	0.635			
	HL3	0.678			
	HL4	0.719			
	HL5	0.741			
Halal logo	HL6	0.705			
	HL7	0.806			
	HL8	0.679			
			0.920	0.916	0.589
	CK1	0.701			
	CK2	0.734			
	CK4	0.778			
	CK5	0.794			
Consumer knowledge	CK6	0.801			
	CK7	0.789			
	CK8	0.788			
	CK10	0.710			
			0.907	0.885	0.524
	PQ1	0.712			
	PQ2	0.743			
	PQ3	0.726			
	PQ4	0.720			
	PQ5	0.785			
Perceived product quality	PQ6	0.777			
	PQ7	0.758			
	PQ8	0.724			
	PQ9	0.537			

4.8.3 Discriminant Validity

The establishment of the discriminant validity is a necessary thing in the research (Hamid *et al.*, 2017). The most widely used practice for measuring discriminant validity is the Fornell and Larcker criteria. However, the new method has also emerged that measures the discriminant validity and that method is called Heterotrait-Monotrait (HTMT) ratios. In this study Fornell and Larcker as well as Heterotrait-Monotrait ratio of correlation was used to establish the discriminant validity.

According to Hair *et al.* (2013), discriminant validity is termed as the extent to which construct measures what it is intended to measure. The correlation among the items as well and the overlapping constructs is being assessed through discriminant validity. Hair *et al.* (2013) suggests two criteria for checking out the discriminant validity. The prior one is Fornell and Larcker's criteria which is the square root of AVE of each construct. This criteria states that a particular construct should share higher value than any other off diagonal element in the row or column. The next method which is suggested by Hair *et al.* (2013) is to examine the cross loadings of each item. The loadings of every indicator on its construct should be higher than the loadings on other constructs (Hair *et al.*, 2011).

Table No 4.10

Discriminant Validity Fornell - Larcker Criterion

	BN	CK	COO	HL	NL	PL	PQ	PR
BN	**0.713**							
CK	0.167	**0.768**						
COO	0.318	0.152	**0.789**					
HL	0.379	0.230	0.513	**0.713**				
NL	0.374	0.159	0.358	0.464	**0.720**			
PL	0.383	0.210	0.422	0.594	0.587	**0.710**		
PQ	0.415	0.245	0.391	0.583	0.485	0.596	**0.724**	
PR	0.390	0.150	0.378	0.468	0.487	0.471	0.448	**0.744**

The values for the square root of AVE should be above 0.50, as these values account for the percentage of variance in the indicators. In the Table 4.10 shown above elaborates that the square root of the respective constructs (diagonal values) are greater than the rest of the values in the column, hence affirming the construct validity of the measurement model (outer model). Conclusively, construct validity was established in this study by confirming content validity, convergent validity, and discriminant validity.

Heterotrait-Monotrait ratio of correlations is new method for assessment of the discriminant validity of the data. This technique is widely used in partial least square structural modelling technique. Establishment of the discriminant validity is a necessary step as without this step researcher cannot be sure of the results of hypothesis testing. In actual, HTMT is the estimation of the correlations between the constructs (Nunnally, 1978; Netemeyer *et al.*, 2003). Usage of HTMT approach does not require the factor analysis to be done in order to generate the factor loadings as well as the construct scores. This approach does not require the survey of the similar theoretical concepts with difference

approaches. The value of Heterotrait-Monotrait ratio of correlation needs to be less than 0.5 ideally. As it could be observed in the table 4.9 that all the values of HTMT test are below 0.5 hence the data has established discriminant validity.

Table 4.9

Heterotrait -Monotrait Ratio (HTMT)

	BN	CK	COO	HL	NL	PL	PQ	PR
BN								
CK	0.144							
COO	0.393	0.118						
HL	0.450	0.211	0.607					
NL	0.474	0.147	0.469	0.560				
PL	0.459	0.177	0.525	0.692	0.731			
PQ	0.487	0.185	0.451	0.658	0.574	0.685		
PR	0.476	0.147	0.462	0.546	0.620	0.555	0.505	

4.9 Original and Revised Theoretical Model

Originally the theoretical framework contained seven constructs. These constructs were put to analysis in PLS. There were items of the model constructs before applying confirmatory factor analysis. Figure 4.2 shows the original model of the study however figure 4.3 explains the revised model of the study

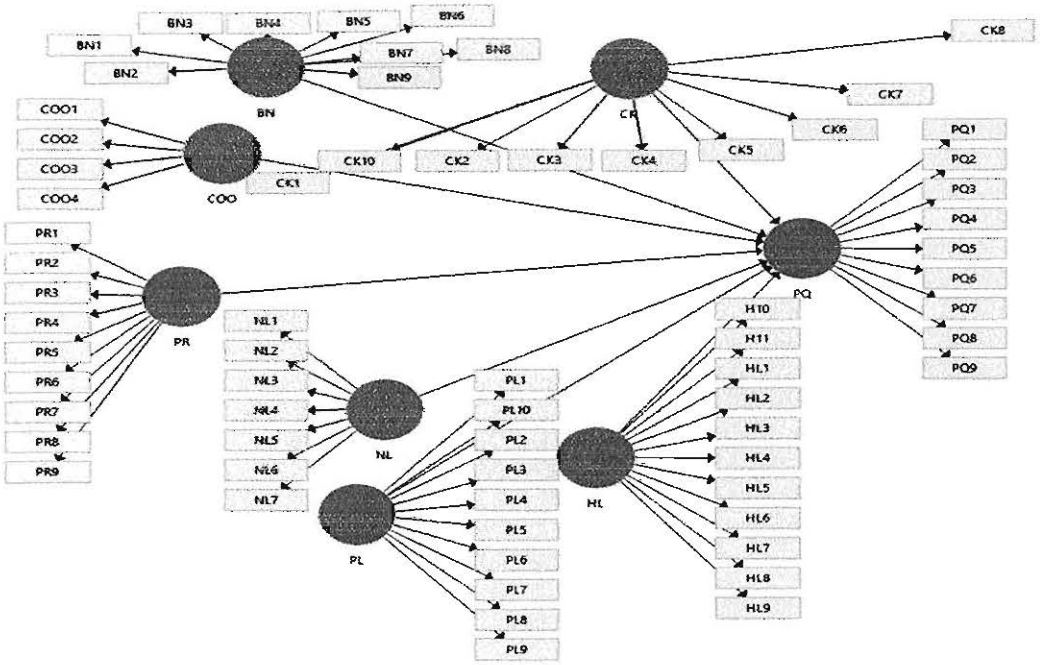

Figure 4.2

Original Model of Study

By implementing confirmatory factor analysis approach in PLS produced certain changes. Three items from the construct of brand name (BN 7, 8, 9), two items from the construct of consumer knowledge (CK 3, 9). Two items from the construct of nutritional label (NL 4, 7) were deleted. Three items from the construct if precautionary label (PL 1, 2, 3) were deleted. From the construct of Halal label three indicators were deleted (HL 2, 10, 11) items. From the construct of price four indicators were deleted (PR1, PR2, PR3, PR9). However, the remaining items of the constructs remained intact and no item was deleted. The number of items was deleted from 69 to 52. Prior to the evaluation of structural model.

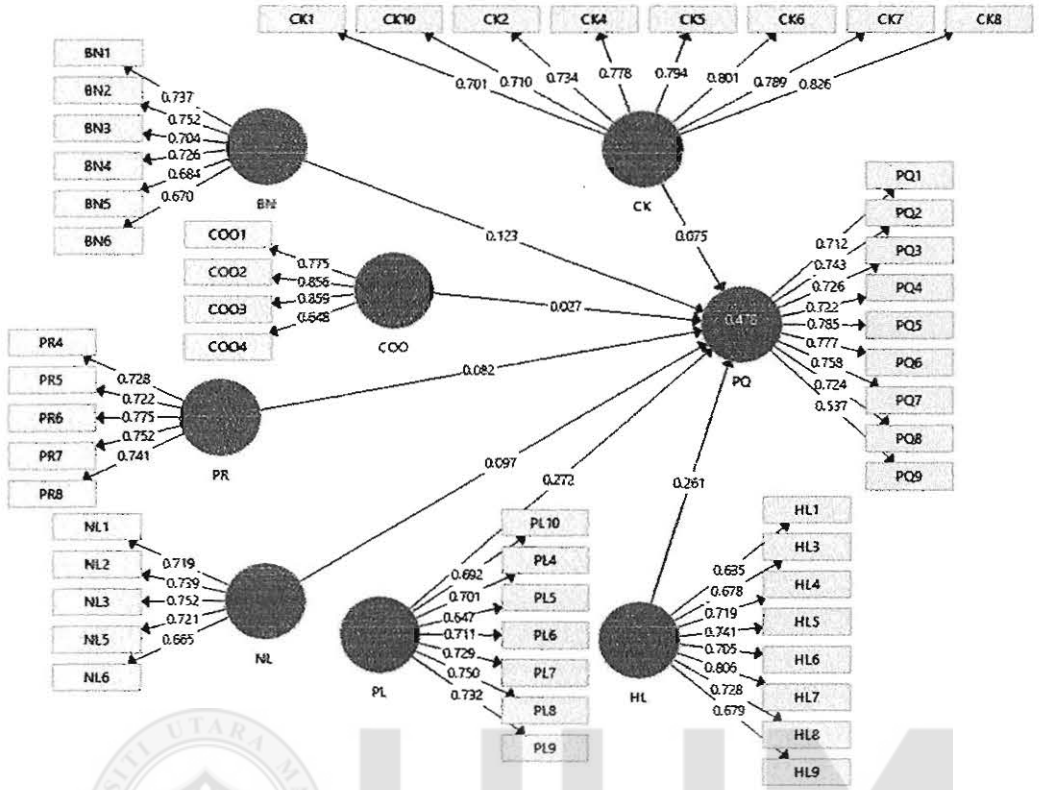

Figure 2

Revised Model

4.10 Evaluation of Inner Model (Structural Model)

After the evaluation of measurement model, the next step is to determine the structural model. To test the inner model of theoretical framework Hensler and Sarstedt (2013) suggested the following criteria: coefficient of determination (R^2), cross validated redundancy (Q^2), path coefficients, effect size (f^2) and goodness of fit (GoF).

4.10.1 Determination of R^2

The primary step for conducting the measurement model assessment is the determination of R^2. The value of R^2 varies according to the discipline it is being used for (Sarstedt *et al.*, 2014). According to Hair *et al.* (2010) value of 0.75 is considered to be high however in few other research disciplines the value of 0.20 is considered to be high. A general rule of thumb has been describes by Chin (2010) where the values of 0.67, 0.33, and 0.19 are considered as substantial, moderate, and weak, respectively. The criteria described by Cohen (1988) states that R^2 value of 0.26 or more is considered as substantial, 0.13 as moderate, and 0.02 as weak. Coefficient of determination or R^2 is used to evaluate the predictive accuracy of the model (Hair *et al.*, 2013). According to suggestion of Hair *et al.*, (2010) R^2 determines the combined effect of the exogenous variables on the endogenous variable. The value of effect size ranges between 0 and 1. The two minimum acceptable criteria for assessing R^2 or the coefficient of determination are Hair *et al.* (2013) as well as Cohen (1988). Table 4.11 states the difference between the two.

Table 4.11

Criteria for Assessing Coefficient of Determination (R^2)

Hair *et al.* (2014)		Cohen (1988)	
0.75	Substantial	0.26	Substantial
0.50	Moderate	0.13	Moderate
0.25	Weak	0.02	Weak

This particular research followed Cohen (1988), according to which the coefficient of determination is substantial. The value of R^2 indicates that the power of brand name, country of origin, price, nutritional label, precautionary label, Halal logo and consumer knowledge in explaining perceived product quality accounts for.

The results of PLS algorithm explains endogenous variable accounts for 47.8% of the total variance explained which is pretty fine value practically. Table 4.12 shows the results of R^2 and adjusted R^2.

Table 4.12

R Square of Endogenous Variable

	R Square	R Square Adjusted
PQ	0.478	0.470

4.10.2 Effect Size

Another assessment to be considered in structural model evaluation involves the effect size (f^2) of each relationship in the structure model, which allows researchers to evaluate the exogenous latent variable's incremental explanation of an endogenous latent variable. The effect size can be determined by calculating Cohen's f^2 (Chin, 2010; Cohen, 1988; Hair *et al.*, 2013; Hair *et al.*, 2011; Henseler & Chin, 2010). It has been argued by Hair *et al.* (2013) that R^2 is a good indicator of the quality of model however, we cannot over rely on this indicator of quality assessment as it can be problematic. The rule of thumb described by Cohen (1988), the values of 0.35, 0.15 and 0.02 represent strong medium and small effects respectively. The Table 4.13 shown below depicts that all the variables had a trivial effect size.

Table 4.13

Effect Size (f^2) on Perceived Product Quality (endogenous construct)

Brand Name (BN)	0.022
Country of Origin (COO)	0.001
Price (PR)	0.008
Nutritional Label (NL)	0.010
Precautionary Label (PL)	0.071
Halal logo (HL)	0.069
Consumer knowledge (CK)	0.010

4.10.3 Predictive Relevance (Q^2)

Along with measuring the magnitude of R^2 measurement of predictive relevance should also be measured (Chin, 2010). In order to evaluate the predictive abilities of the model, the researchers are suggested to count on the predictive abilities of the model (Hair *et al.*, 2010). As suggested by Chin (2010), the researcher must use predictive sample reuse technique in order to calculate the predictive relevance of the model. The value of Q^2 is generated by applying sample reuse technique and blindfolding procedure in Smart PLS. This technique excludes data for a given construct or a block of indicators and then predicts the excluded part based on the calculated parameters.

According to Fornell and Cha (1994) cross validated redundancy (Q^2) is a common sample re-use technique which is used to assess the model's predictive quality. As per Fornell and Cha (1994), it is necessary that redundant communalities should be greater than zero for all the endogenous variables, in order for a model to have predictive validity. If the values of cross validated redundancies are not greater than zero, a model is supposed to have no predictive relevance. The procedure of blindfolding will operate in a manner that it will eliminate data from the data set on an omission distance value (D). According to Chin (2010) the omission distance can be any value between 5 and 10.

As suggested by Hensler *et al.* (2009) the technique of blindfolding should only use is the endogenous latent variable have a reflective measurement. As such, this study had reflective measurement so blindfolding technique was appropriate. The table 4.14 and figure 4.8 exhibits that score of the predictive relevance of the model is above zero, hence affirming that the model possess an adequate ability to predict.

Table 4.14

Predictive Relevance (Q^2)

Construct	Q^2	Result based on Chin criteria
Perceived Product Quality (PQ)	0.228	$Q^2 > 0$

Figure 4.4 shows the blindfolding output of PLS for the theoretical framework. The output value if 0.228 can be seen in the figure evidently.

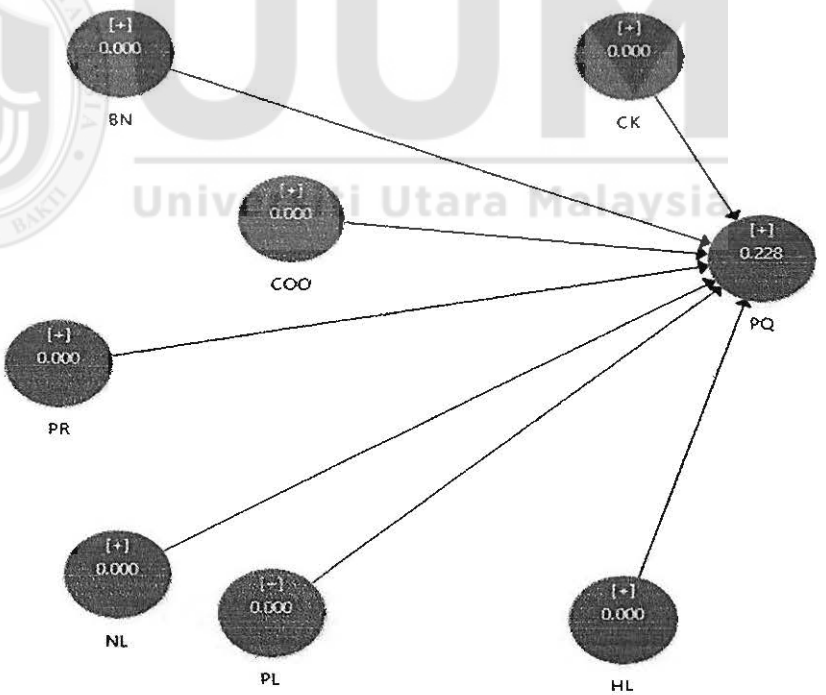

Figure 4.4

Blindfolding

4.10.4 Goodness of Fit (Gof) Model

Goodness of fit (GOF) of the model is estimated after the analysis of predictive relevance of the model. Goodness of fit (GOF) can be defined as the geometric mean average communality and average R^2 (for the endogenous constructs) (Tenenhaus *et al.*, 2005; Wetzels *et al.*, 2009). As supported by Tenenhaus *et al.* (2005), GoF can be defined as the geometric mean of the average communality and average R2 (for the endogenous constructs) (Wetzels *et al.*, 2009) which is shown in the formula given below. A cut-off value of 0.5 (Fornell & Larcker, 1981) has been proposed for communality as it equals AVE in PLS path modelling (Wetzels *et al.*, 2009). The global acceptable standards for goodness of fit according to Wetzels *et al.* (2009) are 0.10 (small) 0.25 (medium) 0.36 (large). In order to estimate GoF in PLS path modelling, Wetzels *et al.* (2009) suggest using following formula:

$$GOF = \sqrt{(\overline{R2} \times \overline{AVE})}$$

$$GOF = \sqrt{0.478 \times 0.524}$$

$$GOF = 0.5$$

4.10.5 Path Coefficients and Significance Test

According to Hair *et al.* (2011), the significance level, path coefficients and the t-values are utilized for testing of hypotheses. The path coefficients are standardized beta values. The values of coefficients range from +1 to -1. The strong positive relationship is signified by the values which are closer to +1 and a strong negative relation is depicted by the values which are closer to negative 1 (Henseler *et al.*, 2009). When the signs of the path coefficients are opposite to the hypothesized direction, the hypothesis is considered to be not supported. As per Hair *et al.* (2013), the paths which are empirical supported exhibit

the sign which is in line with the hypothesized direction. The researcher initially runs PLS algorithm to obtain the path coefficients and afterwards bootstrapping is done on structural model in order to test the hypotheses. Table 4.15 shows the path coefficient and significance levels of the constructs under investigation.

Table 4.15

Path coefficients and significance level

Construct name	B-values	T-values	P-values
Brand name (BN)	0.123	2.873	0.004
Country of origin (COO)	0.025	0.622	0.534
Price (PR)	0.081	1.927	0.055
Nutritional label (NL)	0.096	2.104	0.036
Precautionary label (PL)	0.272	4.512	0.000
Halal logo (HL)	0.262	4.839	0.040

4.11 Hypotheses Testing (Direct Paths)

Primarily, the function of algorithm was applied to produce the path coefficients. Furthermore, as a next step bootstrapping is carried out with 500 sample size. The sample size selected while running Smart PLS must be greater than the actual sample size which a condition is recommended by (Hair *et al.*, 2013). Greater sample size was being used by Kumar (2015), Wilson (2011) as well as Lowry & Gaskin (2014).

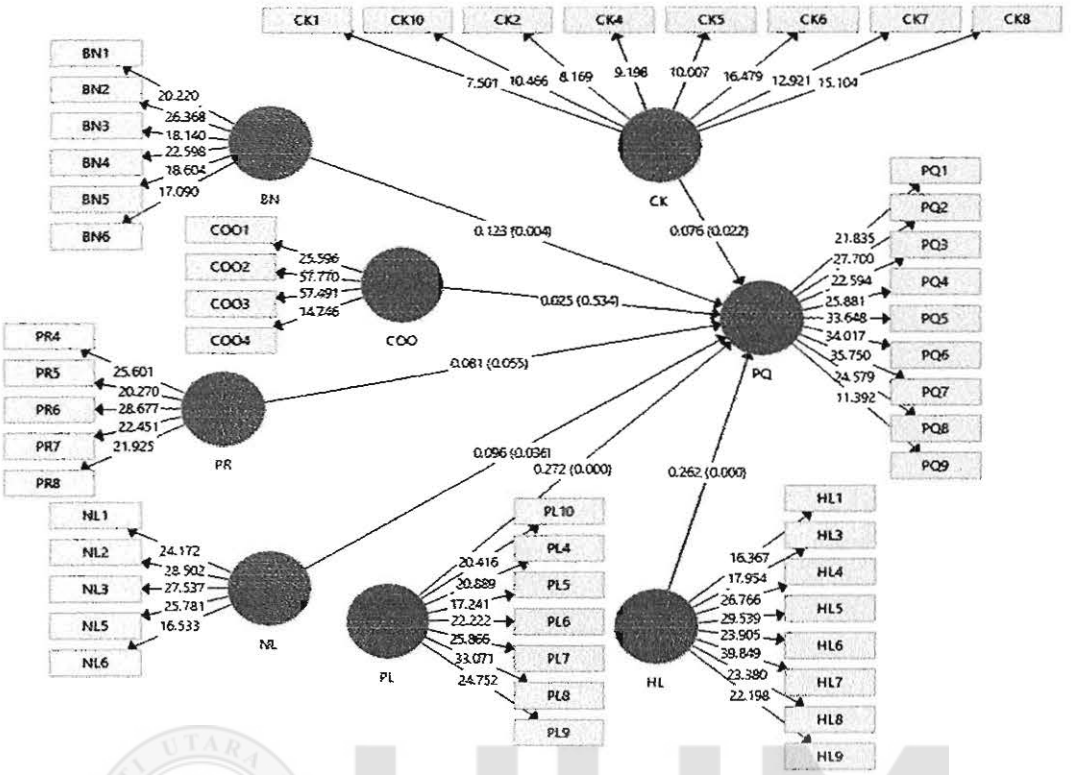

Figure 4.5

Path coefficients and p-values

[BN= Brand Name; COO= Country of Origin; PR= Price; NL= Nutritional Label; PL= Precautionary label; HL= Halal logo; CK= Consumer Knowledge; PQ= Perceived Product Quality]

After determination of goodness of fit of the model, path coefficients are determined. The path coefficients are used in order to inspect the hypothesized relationships. The predictable t-tests are not assessed in PLS (Barclay *et al.*, 1995). Non-parametric procedures such as bootstrapping are used for generation of significance of tests. This study utilized bootstrapping technique which is implanted in Smart PLS to check out the statistical significance of the path coefficients. The Figure 4.5 above exhibits the path coefficient values along with the p-values whereas figure 4.6 displays path coefficients and

t-values. The figures clearly exhibit that all hypotheses hold other than the hypothesized relationship of country of origin with perceived product quality.

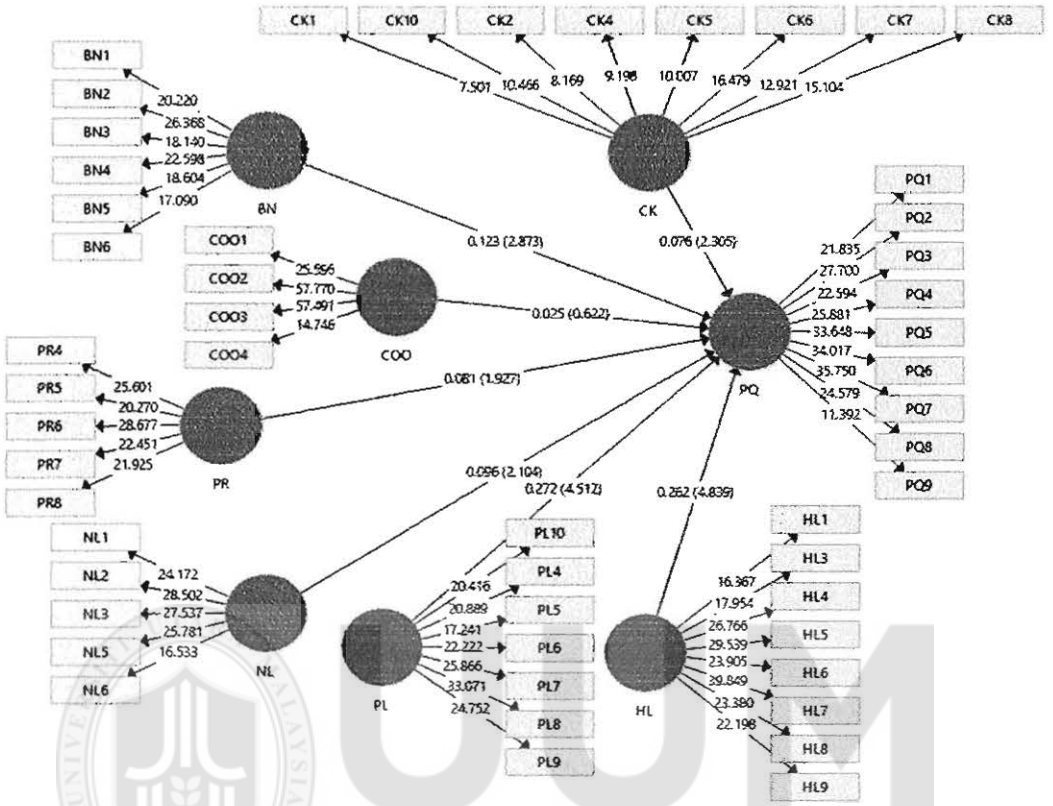

Figure 4.6

Path coefficients and t-values

[BN= Brand Name; COO= Country of Origin; PR= Price; NL= Nutritional Label; PL= Precautionary label; HL= Halal logo; CK= Consumer Knowledge; PQ= Perceived Product Quality]

Path coefficients are the standardized values on the range of +1 to -1 (Hair *et al.*, 2013). The path coefficient values which are nearer to +1 depict positive nexus however, the values closer to -1 represent negative relationship. If the path values are insignificant or opposite to the hypothesized relationship the hypothesis is supposed to be rejected. Bootstrapping is run in this research to get the t-values and standard error for each path coefficient.

Table 4.16

T-value criteria

T-value criteria	Results based on Chin criteria
T-value less than 1.64	Rejected
From 1.65 to 1.95, with p-value from 0.05 to0.10	Accepted with weak evidence
From 1.96 to 2.58, with p-value from 0.1 to 0.05	Accepted with significant relationship
Above 2.58, with p-value of 01% and below	Accepted with strong significance

The Table 4.16 above shows the criteria for the acceptance and rejection of hypotheses.

Table 4.17

Path coefficients of Direct Paths (Main Hypotheses)

Hypotheses	Relationship	B-values	T-values	P-values	Decision
H1	BN-->PQ	0.123	2.910	0.004	Accepted
H2	COO-->PQ	0.027	0.646	0.519	Rejected
H3	PR-->PQ	0.082	2.056	0.040	Accepted
H4	NL-->PQ	0.097	2.094	0.037	Accepted
H5	PL-->PQ	0.272	4.620	0.000	Accepted
H6	HL-->PQ	0.261	2.056	0.040	Accepted

The above table 4.17 shows the summary of all the main hypotheses which are direct in nature. The following hypothesized relationships were examined in the study

H_1: It has been hypothesized in the study that brand name has a significant impact on consumer's product quality perception. The bootstrapping results also show that brand name casts a significant impact on the product quality perceptions (β= 0.123, t= 2.910, p= 0.004).

H2: The results (β= 0.027, t= 0.646, p= 0.519) indicate that no significant relationship exists between country of origin perceived product quality.

H3: Third hypothesis of the study states that price has a positively significant impact on perceived product quality. Bootstrapping results provides support to the hypothesis (β= 0.082, t= 2.056, p= 0.040).

H4: Nutritional label casts a significant impact on product perceived quality. The results reveal that there exists a positively significant relationship between nutritional label and product perceived quality (β = 0.097, t= 2.094, p= 0.037), hence accepting the hypothesis.

H5: Precautionary labels casts a significant impact on product perceives quality. The results show that (β = 0.272, t= 4.620, p= 0.000) precautionary labels and perceived product quality has highly and significantly associated.

H6: Halal logo casts a significant impact on product quality perception. The outcome of the bootstrapping confirms the hypothesis (β = 0.261, t= 2.056, p= 0.040).

4.11.1 The Interaction Effects (Indirect Paths)

The variable which interacts with the predictor variable to elucidate the criterion variable is called as moderator variable (Baron and Kenny, 1986). The interaction takes place when the impact of independent variable on dependent variable fluctuates with level of a third variable known as moderator (Barron and Kenny, 1986; Edwards & Lambert, 2007). In order to generate the interaction effect, the "the interaction latent construct" is modelled as an additional latent variable in PLS. For initializing the interaction latent construct, two approaches can be used namely product indicator approach and two-stage approach (Hensler & Chin, 2010). According to Chin and Dibbern (2010), the interaction effect is generated in product indicator approach by creating the latent interaction construct and the indicators are estimated by multiplying each predictor's indicator with each moderator's indicator. Whereas in two stage approach the latent interaction construct is generated and

the indicators are estimated by multiplying the saved scores of dependent variable and moderator variable (Goodhue *et al.*, 2007). Hensler and Chin (2010) as well as Wilson (2011) suggest that the product indicator approach is superior to be used when the moderator is a reflective construct, hence this study used product indicator approach.

In this particular study, consumer knowledge is used as a moderator for the hypothesized relationships. The interaction latent construct has been established using the product indicator approach. Six interaction effects have been created in this study. The interaction latent constructs of Brand name × Consumer knowledge (BN×CK), country of origin ×Consumer knowledge (COO×CK), Price × Consumer knowledge (PR×CK), Nutritional label × Consumer knowledge (NL×CK), Precautionary label × Consumer knowledge (PL×CK), and Halal logo × Consumer Knowledge (HL×CK) have been examined using bootstrapping procedure with 500 sample.

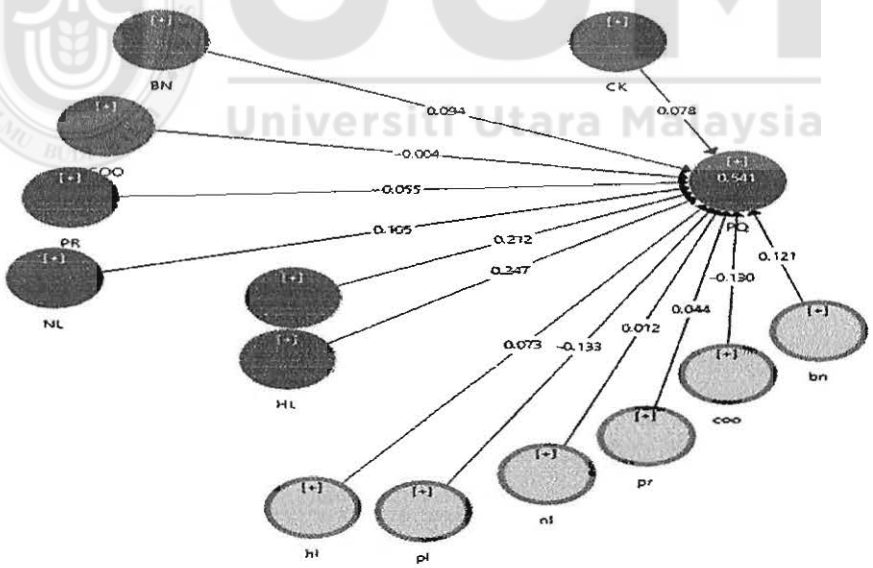

Figure 4.7

B-values of moderator

[BN= Brand Name; COO= Country of Origin; PR= Price; NL= Nutritional Label; PL= Precautionary label; HL= Halal logo; CK= Consumer Knowledge; PQ= Perceived Product Quality]

The table 4.18 shown below depicts the summary of the hypotheses of interaction paths.

Table 4.18

Interaction Path coefficients and Significance Level

Interaction Effect	β	T-value	P-value	Decision
BN×CK	0.121	1.698	0.090	Accepted
COO×CK	-0.130	2.134	0.033	Accepted
PR×CK	0.044	0.814	0.416	Not Accepted
NL×CK	0.012	0.200	0.842	Not Accepted
PL×CK	-0.133	1.201	0.230	Not Accepted
HL×CK	0.073	0.850	0.396	Not Accepted

The figure 4.8 shows the path coefficients along with the p-values which show the impact of consumer knowledge as a moderator. The figure 6 elaborates the path coefficients as well as t-values.

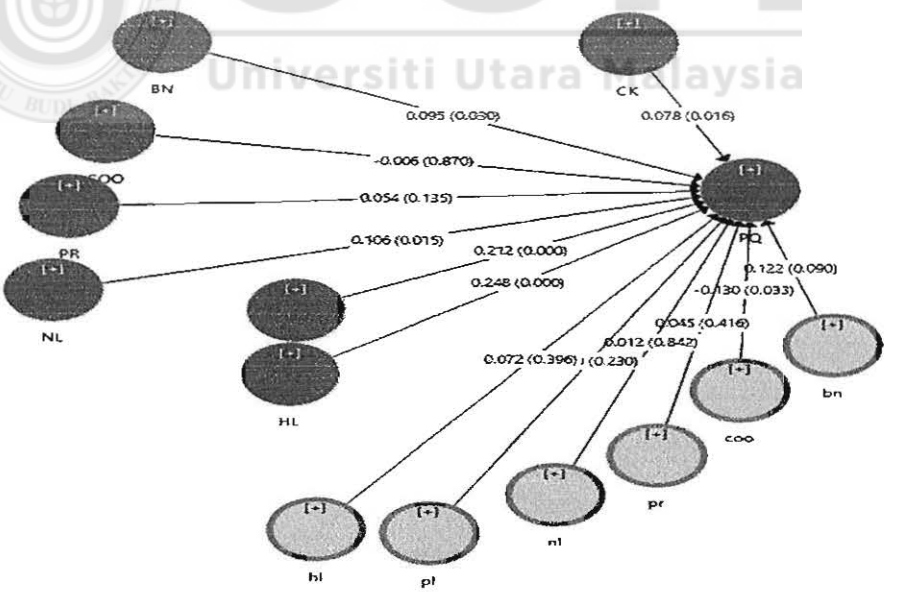

Figure 4.8

Path coefficients and p-values

The above Table 4.18 shows the path coefficients along with t statistics and p-values.

H7: As the results reveal that the interaction effect for brand name H7 is supported (β= 0.121; t= 1.698; p=0.090). The results indicate that high level of consumer knowledge regarding the brand, the better will be the quality perception of consumers regarding the packaged food product. The results has been depicted in the interaction graph Figure 4.9. The graph has been plotted by using Microsoft excel using line graph options. The values of dependent variable has been plotted against the y-axis and the levels of independent variable has been plotted on x-axis. The graph lines show the levels of the consumer knowledge

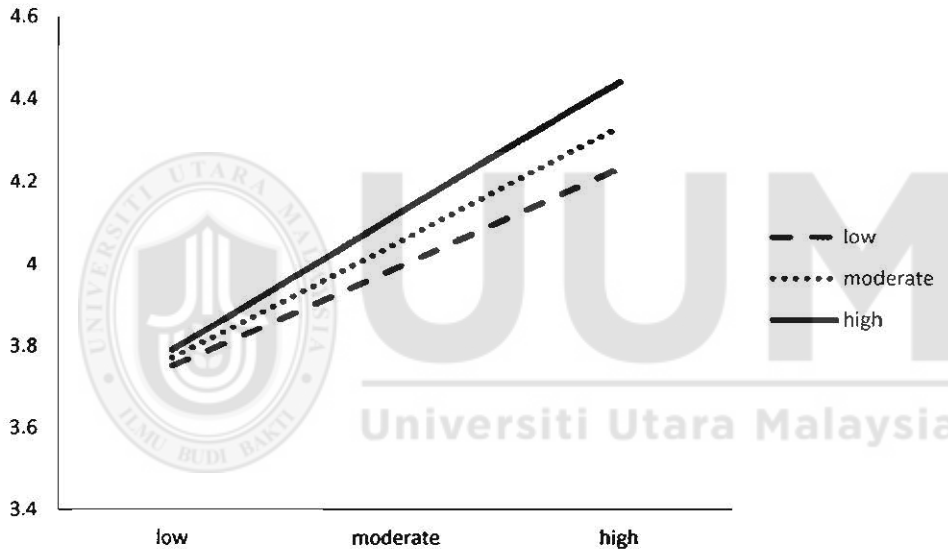

Figure 4.9

Interaction between brand name and perceived product quality

H8: The hypothesis stated that consumer knowledge moderates the relationship between country of origin and perceived product quality. The bootstrapping results signify that consumer knowledge negatively moderates the relationship of country of origin and perceived product quality (β= -0.130; t= 2.134; p=0.033). The interaction between country

of origin and perceived product quality has also been plotted by using Microsoft excel. The figure 4.8 shows the graph

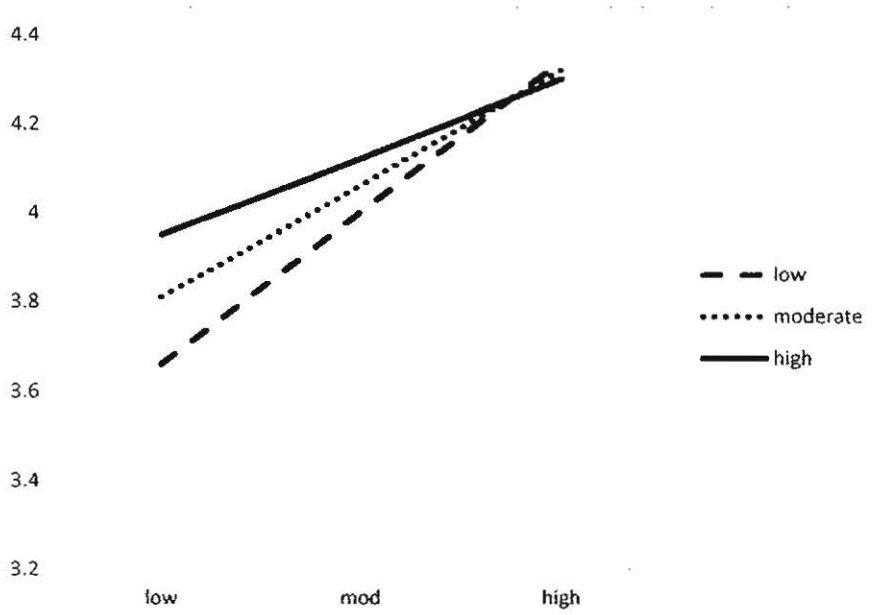

Figure 4.10

Interaction plot between country of origin and perceived product quality

H9: The next hypothesis of study under discussion is that consumer knowledge moderates the relationship between the price and perceived product quality (β= 0.054; t=1.496; p=0.135). However, the outcomes reveal that consumer knowledge does not moderate this relationship, hence rejecting the hypothesis.

H10: The subsequent hypothesis of the study is specified as consumer knowledge moderates the relationship of nutritional label and perceived product quality. Moreover, contrary results received from the bootstrapping analysis rejects this hypothesis (β= 0.012; t=0.200; p=0.135).

H_{11}: The variable of consumer knowledge does not show any significant interaction effect with precautionary label and perceived product quality, hence rejecting the hypothesis that consumer knowledge significantly moderates the relationship of precautionary label and perceived product quality (β= 0.054; t=1.201; p=0.230).

H_{12}: The last hypothesis under discussion of the study is jotted down as consumer knowledge significantly interacts in the relationship of Halal logo and perceived product quality. The analysis has shown that such an interaction effect does not exist (β= 0.072; t=0.850; p=0.396).

4.11.2 Summary of Hypotheses Testing

Table 4.18 presents the summary of results of all the hypotheses being tested in this particular study. The direct effect hypotheses were studied separately as shown by the first six hypotheses and then rest of the six hypotheses were studied with interaction effects with the moderator. The first hypothesis that brand name casts a significant impact on perceived product quality was supported by the bootstrapping. The second hypothesis, that country of origin has a significant impact on perceived product quality, was not supported. The third hypothesis price has a significant impact on perceived product quality was supported. The fourth hypothesis, that the nutritional label has a significant impact on perceived product quality was also supported and proved by the results. The fifth hypothesis, that the precautionary label has a significant impact on perceived product quality, was accepted with significance. Lastly, the sixth hypothesis, that Halal label has a significant impact on perceived product quality, was supported by the results of analysis and accepted.

With regard to the moderation effect of consumer knowledge, the interaction model has been initiated. As shown in Table 4.18, the result has not confirmed the postulated hypotheses that consumer knowledge moderates the food packaging cues. Consumer knowledge moderates the relationship of brand name and perceived product quality.

Table 4.18

Summarized Results of Hypotheses Testing

Hypo	Statement	Sign	Sig	Decision
H_1	Brand name has a significant impact on the product quality perception.	+	significant	supported
H_2	Country of origin label has a significant impact on product quality perception.	+	In significant	Not supported
H_3	Price has a significant impact on product perceived quality.	+	significant	supported
H_4	Nutritional label casts a significant impact on product perceived quality.	+	significant	supported
H_5	Precautionary labels casts a significant impact on product perceives quality.	+	significant	supported
H_6	Halal logo casts a significant impact on product quality perception.	+	significant	supported
H_7	Consumer knowledge moderates the relationship between brand name and product perceived quality.	+	significant	supported
H_8	Consumer knowledge moderates the relationship between country of origin and product perceived quality.	-	significant	supported
H_9	Consumer knowledge moderates the relationship between price and product perceived quality.	+	In-significant	Not supported
H_{10}	Consumer knowledge moderates the relationship between nutritional label and product perceived quality.	+	In-significant	Not supported
H_{11}	Consumer knowledge moderates the relationship between precautionary label and product perceived quality.	+	In-significant	Not supported
H_{12}	Consumer knowledge moderates the relationship between Halal logo and product perceived quality.	+	In-significant	Not supported

4.12 Summary of Chapter

This study utilised the partial least square SEM for probing in to the hypotheses results. Describing the descriptive of the study and profiling of the respondents was the primary part of analysis. Variety of reliability and validity measures were applied for the evaluation of the outer (measurement) model of the study. Goodness of fit and predictive relevance were estimated in order to further strengthen the model. Thereafter, inner (structural) model was estimated in order to test the hypothesised relationships. Finally the chapter explained the summary of hypotheses and the discussion of the results. The upcoming chapter will present the findings and contributions of the study.

CHAPTER 5

DISCUSSION AND CONCLUSION

5.1 Recapitulations of the Study

This study following positivist paradigm sought to investigate the impact of food packaging cues on perceived product quality. Specifically, the impact of brand name, country of origin, price, nutritional label, precautionary label and Halal logo were checked on perceived product quality with the moderating effect of consumer knowledge. The theoretical framework of the study was supported by signalling theory proposed by Spence (1973). The survey of the study was conducted by using a data collection instrument devised on 5 point Likert scale (APPENDIX A). The first and foremost objective of this study was to determine the impact of selected food packaging cues on perceived product quality. The second objective was to determine the moderating role of consumer knowledge. By revisiting the objectives, the study aimed to answer the following research questions: To determine the impact of food packaging cues on the perceived food quality. To determine how the influence of the food packaging cues on quality perception are moderated by consumer knowledge.

Data was gathered from the capital city of Pakistan, Islamabad and its twin city of Rawalpindi. Main data collection was done through mall intercept method. Data collection led to data screening and estimation of validity, reliability and factor loadings of the measurement model (outer model) by using Smart PLS 3. After establishing the quality criteria for the outer model, structural model (inner model) is being assessed by measuring effect size, predictive relevance and goodness of fit (GoF). The hypotheses of the study

include direct paths as well as moderating paths. All the hypotheses were checked one by one using bootstrap in Smart PLS.

In order to examine the model founded on the relationship among the variables as being postulated in the framework, an empirical investigation was carried out. The framework of the study was pertaining to the image variables (brand name; country of origin; price; nutritional label; precautionary label and Halal logo with moderating effect of consumer knowledge) of the packaged food products. Pakistani packaged food consumer market across the two biggest cities that are Rawalpindi and Islamabad were selected as a source of information for the study. The collected information directed the achievement of research objectives of the study. Various statistical treatments were applied to the inner (structural) model under study. The model was cultured to reach a desirable goodness of fit for further hypothesis testing process.

The main objective of the study is to *determine the impact of food packaging cues on perceived product quality*. The first research objective under the main objective was to determine the impact of brand name as a food packaging cues on perceived product quality. First hypothesis of the (H1) was devised in order to achieve the first objective of the study. Brand name was taken as an independent variable and perceived product quality was taken as a dependent variable. The first hypothesis was accepted using PLS bootstrapping technique. The prevalence of positive and significant relationship between brand name and perceived product quality can be ascribed to the likelihood that brand name as a packaging element is considered as an essential quality cue. The brand name aids the consumer to develop perceptions regarding the packaged food product. The result of the hypothesis could also be explained like product quality is judged by the consumer prior to the usage by taking into consideration the brand name. These results are in line with outcomes of

Qasem *et al.* (2016) whose findings also reveal that brand name casts positively significant impact on the quality perceptions of the consumers.

The second hypothesis of the study H_2, which was defined as a positive and significant relation exists between country of origin and brand name was not accepted as shown by the results. The absence of the significant relationship between the variables can be attributed to the fact that country of origin cue is subjugated in the presence of other marketing cues. The results can be otherwise explained that Pakistani consumers are less aware of the country of origin labelling as most of researches were being carried out in European markets. The results corroborate with the findings of Kalicharan (2014) who unveiled that significant relationship does not existent between the cue of country of origin and perceived product quality.

The third hypothesis H_3 of the study proposed that price impacts the perceived product quality significantly. The hypothesis was accepted. The positively significant relationship possibly emerges from the fact that Pakistani packaged food consumer is becoming health conscious, they expect the value from the product in exchange of money as well as they believe in the genuineness of the product. The results of the study agree with the findings of Miyazaki *et al.* (2005) who claimed that the price of the product is a sheer indicator of quality for the consumers prior to its actual usage.

The subsequent hypothesis H_4 which measured the direct relationship stated that nutritional labels casts a significant impact on perceived product quality. The analysis of the study supported the result. The positively significant results can be attributed to the probability that Pakistani consumer perceives it imperative that nutritional labels packaged food producing companies should display the nutritional label on their package. They seem to

further presume that products with proper labelling on their packages is of good quality. The results from the Pakistani consumers conforms the outcomes of Bialkova *et al.* (2016) who published that nutritional labels are considered as quality indicating feature by various consumers.

The successive hypothesis H_5 stated a significant effect of precautionary label on perceived product quality was found to be accepted. The substantial relationship of precautionary label and perceived product quality arose from the likelihood that Pakistani consumers suffering from various kinds of food allergies tend to have a inclination towards the presence of precautionary labels and contemplate the packaged food with this label of good quality in comparison with the products without any such display of information. The results of the study conforms to the analysis outcome of (Zurzolo *et al.*, 2017).

The next hypothesis H_6 of the study proposed that Halal logo impacts the perceived product quality significantly was found to be supported by the results. It shows that Pakistani consumers have an absolute concern regarding the presence of Halal logo on package. They consider that the products with the Halal logo being evidently displayed on the package are considered to be having good quality. In addition to be having good quality, such products are considered to be religiously compliant. The results agree with the outcomes of (Haque *et al.*, 2015).

The second main objective of the study was "*consumer knowledge moderates the relationship between food packaging cues and perceived product quality*". In an attempt to achieve this objective six hypotheses were articulated. According to Barron and Kenny (1986) moderator is a third variable which impacts the direction and strength of relation between independent and dependent variable.

The hypothesis H_7 of the study proposes a significant interaction effect of consumer knowledge on the relationship between brand name and perceived product quality was found to be supported. The observed interaction impact of consumer knowledge reveals that with changing levels of consumer knowledge consumers perceive product quality towards the brand name also changes. The results are in conformance with the findings of Rao and Monroe (1988) who revealed that brand name has an impact on the perceived product quality whereas prior consumer knowledge moderates this relationship.

The subsequent hypothesis H_8 proposed that consumer knowledge moderates the relationship between country of origin and perceived product quality. The hypothesis was seen to be supported by the analysis of study. The prevalence of moderating effect shows that with the varying levels of consumer knowledge the quality perceptions of consumers formed through country of origin label also fluctuates. The relationship however is being supported with a negative sign, which indicates that increased consumer knowledge results in decreased level of quality perceptions. The result can be explained in a fashion that consumers of Pakistan are not well aware of the concept of country of origin so far because of the lack of research as well as the impact of country of origin label is minimal is the presence of other marketing cues (Kalicharan, 2014).

The hypothesis H_9 asserted that consumer knowledge interacts the relationship between price and perceived product quality. The results indicated that consumer knowledge shows no moderating effect on the relationship. With the fluctuating levels consumer knowledge regarding the price does not lead to any of the fluctuation in the levels of perceived product quality. Alternatively, with the high of low levels of knowledge related to pricing the Pakistani consumer has a tendency to behave correspondingly. The results to some extent

correspond to the results of Veale & Quester (2009) in which it was revealed that consumer knowledge has a very minimal effect as a moderator.

Hypothesis H_{10} asserted a moderating impact of consumer knowledge on the relationship of nutritional label and perceived product quality. This hypothesis was found to be not supported. The absence of the moderating relationship presages that variation in the levels of consumer knowledge related to nutritional labels does not pave into any momentous change in the perceived product quality. Alternatively it can be explained that with high or low level of knowledge regarding nutritional label a Pakistani consumer might possess, the perceptions of quality remain same. This outcome is in line with results of Talati *et al.* (2016) but contrary to the findings of (Bialkova *et al.*, 2016).

The next hypothesis H_{11} declared that the relationship between precautionary label and perceived product quality is moderated by consumer knowledge was seen not be supported. The consumers with high or low level of consumer knowledge tends to behave similarly while forming quality perceptions towards precautionary labels. The findings agree with the outcomes of Choi *et al.* (2016). The last hypothesis H_{12} of the study asserted that the nexus of Halal logo and perceived product quality is being moderated by consumer knowledge. However, the findings are in contrast to the proposed hypothesis. The altering levels of consumer knowledge imposes no significant impact on the quality perceptions of Pakistani consumers formed because of Halal logo. The results show close relevance to the study of Veale and Quester (2009) in which other visual packaging cues were taken and the impact of consumer knowledge as a moderator was not supported. The Halal logo is also a visual cue for the buyers which is taken as a quality indicating cue but the level of consumer knowledge does not impact the perception formation.

5.2 Findings of the Study

Following the data analysis of the study, the findings of the study are summarized below: The study aims at finding out the impact of product packaging cues on perceived product quality with the moderating effect of consumer knowledge. Among the twelve hypothesis which were postulated, five of them were rejected and seven were confirmed. Six hypotheses are direct path hypotheses among which only one was rejected and five were confirmed. The other six hypotheses are formed for checking the moderated paths. Four moderated hypotheses are not confirmed however two of them are supported.

Brand name is the construct which has been considered as a food packaging cue in the study which casts an impact on the perceived product quality by the consumer. The first hypothesis of brand name is found to have a positive relationship with the perceived product quality in Pakistani consumer market. The results confirm the proposition of signalling theory that explicit cues can result in formation of perceptions related to the quality of the product. It shows that the Pakistani consumers are concerned with the brand name as a food packaging cue and considers it as a quality indicator. A possible explanation for this result is that consumers consider branded packaged food products as superior by the consumers.

Brand name is essential for the marketers, to ensure that the product is positioned in the minds of consumers and to prevent them from switching to alternative brands. When the manufacturing companies spend a span of attention to good quality and marketing strategies, consumers sense that a particular brand has lived up to their expectations hence making that brand label as a quality mark for them. Another explanation could be that consumers of Pakistan are becoming more brand conscious due to increased modernization and rapidly available information sources. Due to information sources consumers have

learnt a lot about the brand and quality, hence the brand name casts a positively significant impact on the perceived product quality. As per the findings of Akendiz *et al.* (2013) the brand name as a label possess the qualities and characteristics that not only distinguishes the particular product from others but also symbolizes the quality.

The impact of the brand name on perceived product quality has been approved in different contexts in Pakistani market for instance Zia and Sohail (2016) worked on automobile brands and Zeb *et al.* (2011) studied fashion brands. Within the settings of Pakistani consumer market Ahmad (2013) concludes that the brand labels not only acts as a perception formation tool but also increases the propensity of the consumers to buy and their willingness to pay for the product. The brand name not only gives a personality to the product but also manages silent conversation with the consumer (Raza *et al.*, 2013). As it is proved by the results that the label of brand name speaks about the quality of the product and it acts as a gadget for the formation of quality perceptions regarding the quality. The outcomes signify that practitioners would be enthused in developing the cues of brand name further and they will take all the necessary steps which lead to forming favourable attitude towards it.

Country of origin is the destination of origin of the product. The consumer around the globe consider the products from a certain destination quality wise more worthwhile as compared to others. The country of origin is displayed on the food packaging in order to deliver information regarding the home country. However, as certain products are perceived to be higher in quality from a specific origin the consumer starts to make quality perceptions related to it. Furthermore, second hypothesis was regarding country of origin effect on perceived product quality. The findings of the hypothesis regarding the impact of country of origin on perceived product quality reveals that country of origin has an insignificant

effect on perceived product quality, hence rejecting the hypothesis. The results are consistent with the findings of researchers in different contexts and markets and at the same time contrary to the traditional findings of various studies. The result confirms the findings of Listiana (2010) who found an insignificant relationship between countries of origin label perceived product quality in Nigerian context. The results are consistent with the findings of Kalicharan (2014) which state that the country of origin effects is not well known within the Asian countries. The findings could have aroused because of lack of information among Pakistani consumers regarding country of origin labelling. It is argued by Rubio (2014) and Masood *et al.* (2014) that perceptions related to any explicit cue is formed only when consumers are well aware of it. Tajdar *et al.* (2015) noted that consumers of Pakistan have less cognizance regarding country of origin labels and its effects. Another probable reason for the rejection of this hypothesis might be that consumers of Pakistan are patriotic by nature and prefer to use Pakistan based products. The extensive cluttering of the local export quality brands also provides them with good quality which makes them reluctant towards country of origin.

Another probable reason for rejection of this hypothesis might be that consumers might not be able to recall the countries from which the product comes. Additionally, another reason might be that the consumers who choose packaged food products make their choices randomly not rationally. The influence of the country of origin label might be very weak. There can be a possibility that the consumers of Pakistan are focused on other product packaging cues as compared to country of origin label as a result the perception is not formed. The findings however, do not correspond to the results of Newman *et al.* (2014) which reveal that country of origin label have substantial impact on the minds of consumers.

Another most likely reason for this outcome is that the consumer who choose the packaged food brand make up their choices based on other possible signals which might be present in the shopping environment at that point of time. It is confirmed from the findings of Veale and Quester (2013) that the signal of country of origin acts as a weak cue in the presence of other strong cues for instance brand name and price. The results of hypothesis go along with the findings of Tajdar *et al.* (2015) who states that Pakistani consumer do not have a mature understanding regarding the label of origin country. Additionally, the random switching behaviour of the consumers regarding packaged food products because of the advertising clutter might be the reason that consumers pay less attention towards country of origin label.

Price is monetary value which is paid in return of acquiring any commodity or service. The price is often pasted or printed on the packaged products. This price becomes the indicator of quality of the enclosed product. As per the anticipations, the relationship of price was found to be positively significant with perceived product quality. The results are in accordance with the previous studies (Aceborn & Dopico, 2000; Miyazaki *et al.*, 2005). The results are proved in various country contexts. Akdeniz *et al.* (2013) observed that price has a positively significant impact on the perceived product quality in Spain. It has been argued by Veale and Quester (2005) that price casts a positive impact on the quality perceptions of the consumers. Packaged products with higher price automatically creates a sense of better quality (Anelmsson *et al.*, 2014). Alfred (2013) also reports significant effect of price over perceived quality. Likewise Roth and Himbort (2015) reported a significant association and a similar kind of finding has been presented by (Kim & Hwang, 2016).

The results of the current study propose that, explicit quality cues such as price considerably adds to the product quality perceptions. Price of the product gives assurance to the consumer to perceive about the quality of the enclosed product (Akdeniz *et al.*, 2013). Eun and Stoel (2014) reason that price is an essential construct that plays an evident role in the quality perception formation of the consumers. Ferqvist and Ekelund (2014) advocate that price is an effective element in creating the perceptions related to the quality of the product. The price is an extrinsic cue which signals quality, credibility and trustworthiness (Delmas & Grant, 2014). Moreover, the outcome is in agreement Saenz *et al.* (2013) who proposed that price is positively significant with perceived product quality in Asian countries. In Pakistani context it has been advocated by Qasem *et al.* (2016) that price acts as an influential cue for determining the quality of the product. The results signify that Pakistani consumers who buy packaged food products consider price as a strong indicator of the quality. The consumers tend to perceive the quality of the product beforehand by taking into view of the price of product. The Pakistani consumers are showing an increase in disposable income which makes them conscious about the quality but at the same time they belong to a poor country hence they give quite a lot of importance towards the cue of price and relate their perceptions of quality with it. The results help in answering the first research question which stated that food packaging cues cast a significant impact on perceived product quality.

The nutritional information being displayed on the food package is the nutritional label. These labels convey the information regarding the nutritious value of the food product. The nutritional label serves as a packaging cue which can convey a certain amount of knowledge to the consumer based upon the quality of the food. In accordance with the expectations, the nutritional label is found to effect the perceived product quality significantly. When the consumers have a visual display of the contents of the product

inside the package in the form of a label, they perceive it to have a better quality (Carrillo *et al.*, 2014). The consumers which have an understanding towards the nutritional labels are likely to remark the product with good quality (Kozup *et al.*, 2003). In European consumer markets, nutritional label is one of the foremost priority of consumer through which they sense the quality prior to the actual usage (Bialkova *et al.*, 2016). The food labels play a focal role in the development of the quality perceptions (Fernqvist & Ekuland, 2014). Mejan *et al.* (2013) states that the nutritional label has been well established as an extrinsic cue which signals the quality in the European market. The similar kind of findings are reported by (Siegrist *et al.*, 2015; Kleef & Dagevos, 2015).

Similar outcomes are being reported by Norazmir *et al.* (2012) as well as Azman and Shak (2014) in Malaysian context in which a positive relationship between nutritional label and perceived product quality has been testified. Similarly, Bandara *et al.* (2016) reveals that nutritional label plays a role of an important extrinsic cue in India. Coming to the Pakistani market, there is a lack of research which directly measures the impact of nutritional label on product quality perception with the category of packaged food products. However, almost similar kinds of studies have taken place with slight differentiation for instance, Saeed *et al.* (2013) reported that the food labels cast a huge impact on the buying behaviour of the consumers. Similarly Khan *et al.* (2015) reports that nutritional labels are becoming popular in Pakistan because of rapid urbanization as well as health and fitness trends. Even though the wave regarding the nutritional label is new to Pakistan as compared to European countries but fast means of information has given an idea to consumers of Pakistan about perceiving the quality based on the food labels. The positively significant results answer the first research question that food packaging cues cast a significant impact on perceived product quality.

The label which provides information regarding any potential allergen in the food is called the precautionary label. Precautionary labels are taken as food packaging cue in this study which helps in the formation of perceptions regarding the quality. As the emergence of precautionary labels on food packages is new in the Pakistan, a striking outcome of the study is positively significant relationship of precautionary label on perceived product quality. A scarcity of study can be observed in establishing precautionary label among other food labels as an important extrinsic cue and significant indicator of quality of the product. In markets of Europe precautionary label is considered to be mandatory element of the packaging (Allen *et al.*, 2014). The results of the study exhibit a close relevance to the outcomes (Choi *et al.*, 2016). Buccini *et al.* (2016) presented a comparative study in various countries and he reported that precautionary labels are considered as important information and a quality indicating cue in EU countries, USA and Australia however, the awareness regarding precautionary labels is growing in Hong Kong. The precautionary labels are perceived as facilitating signals for quality perceptions (Soon & Manning, 2017).

The food labels which provide an information reading any potential ingredient which might cause allergic reaction are known as precautionary labels. However, on general terms, food labels (including precautionary label) are considered to be unique extrinsic cues which disseminate signals regarding the quality of the enclosed product (Ferqvist & Ekuland, 2014; Jover *et al.*, 2004). In the market of Pakistan, where the modernization and urbanization are drifting the trends of health and fitness are increasing (Euromonitor, 2015). There is an obvious scarcity of research on precautionary labels in the market and practitioners are also reluctant in establishing it as an imperative extrinsic cue. The results of the study advocate that the Pakistani consumers consider precautionary label as a quality determining extrinsic cue. The results signify that perceptions regarding the quality of the product are impacted by the precautionary label. Alike nutritional label, precautionary label

is a new entrant on the food packages of Pakistan. Since the general awareness among the consumers regarding this cue is low however modern means of the information has made them relatively aware about precautionary label and its impact on perceived product quality. The outcome of the study conforms to the first research question by showing a positively significant impact on perceived product quality.

Moving on further, the results of the study demonstrate that Halal logo is positively influences perceived product quality. This means that perceptions regarding the quality of the product are largely influenced the presence of Halal logo on the product package. In the packaged food products, Mathew (2014) established that, Halal logo is an ultimate signal of quality and religious compliance. In the Islamic marketing literature, establishment of Halal logo as extrinsic packaging cue is in infancy and the concept of Halal has a real potential in it (Rahman *et al.*, 2017; Haque *et al.*, 2015).

The consumers who consider that Halal logo signifies the hidden quality of the product makes them prefer those food products whose package displays a valid Halal logo (Sharif & Lah, 2014). Thus, it is essential for the marketers and practitioner to provide with an evident Halal logo on the packages, as well as provide them with much more awareness towards it. A possible reason towards the explanation of this result is that Halal logo signifies that the enclosed product has its wholesomeness in it as the Islam preaches to eat wholesome foods which are free of any non-Halal ingredients. Hence, the consumers show an inclination towards Halal labelled packaged foods while choosing.

Much of the work on this concept has been carried out in Malaysia and the results of this study correspond to the outcomes of (Othman, 2017; Khan & Khan, 2017; Azam & Azam, 2016; Ambali & Bakar, 2014; Aziz & Chok, 2013). Although being a Muslim country, there is very little research being carried out on Halal logo and its perceptions towards quality in Pakistan. Hussain *et al.* (2016) reveals that Halal logo impacts the purchase perceptions of the consumers of Pakistan. The results show that Halal logo a positive influence on the perceptions of quality, it is suggested that more efforts should be carried out in Pakistan by marketers as well as researchers in order to strengthen the Halal logo as an extrinsic cue not only in nationally but internationally. Halal logo emerged as strong food packaging cue which casts a positive and significant impact on perceived product quality.

The second research question of the study was aimed at examining the moderating role of consumer knowledge. Consumer knowledge was postulated to act as moderating variable on the specified linkages. The utility of any information provided to the consumer from company relies on the knowledge possessed by him (Moorman, 2001). In such a way, for structuring a good understanding for the signals being provided by the marketer to the consumer. Six interaction hypotheses were formulated in the study by the researcher. Subsequently, PLS was applied in order to check either the relationship hold or not.

Consumer knowledge is a complex topic and has the potential to direct the relationships (Alba & Hutchison, 2000). The role of the variable of consumer knowledge is debatable in the literature regarding the effects and its appropriate representation (Alba & Hutchison, 2000). There are several scholars who advocate that consumer knowledge can impact the processing of the cues by the consumers either in a negative or a positive direction (Jover *et al.*, 2004). Putting differently, consumers who possess more knowledge are able to

receive with ease and precision the signals of the extrinsic cues. Consumers with higher knowledge are empowered with the aptitude to accurately filter the chunks of information being sent out by the cues because of their enhanced analytical expertise. The consumer who possess the knowledge is more likely to seek less advice from others and draw the choices based upon the knowledge. These consumers make an effort to understand the information being provided in the form their peculiar judgements (Brucks, 1985; Park *et al.*, 1994; Kardes *et al.*, 2001; Wirtz & Mattila, 2003).

In the previous studies of Mahsewaran (1996) and Chiou (2003) consumer knowledge has been recognized as an important moderating variable. Schaefer (1997) advocates that the consumer with an amount of knowledge feels confident is receiving and processing the information in the shopping environment. However, it is shown by Jover *et al.* (2004) that consumers are not indeed the experts hence they rely on the cues for the judgements regarding the quality of the product. As per the findings of Moorman (2001), the consumer which do not possess the knowledge possibly might lack the aptitude to understand the strength of the cues.

Along with previous studies, consumer knowledge has been established as a moderator in current studies related to the cue influence (Carsana *et al.*, 2017; Heidi & Olson, 2017). Consumer knowledge has been employed as a moderating variable in other product and service categories for instance (Lee & Yun, 2015; Hong & Pavlou, 2014). In this particular research, the impact of the moderator is overall weak. Four out six interaction hypotheses which were postulated were not supported. In case of consumer knowledge, the possible reason towards it might the general lack of knowledge.

The role of consumer knowledge as a moderator among the linkage of brand name and perceived product quality was supported. The results depict that with varying levels of consumer knowledge, consumers of Pakistani consumers perceive the quality of the packaged food product differently. The outcome can be attributed to the fact that enhanced knowledge of the consumer can make them perceive the quality of the product based on the extrinsic cue. The outcomes reflect that better level of consumer knowledge by the Pakistani packaged food product buyer, the higher is perception regarding the quality of the product based upon the extrinsic cue of brand name.

The outcome explains that by fluctuating the level of knowledge, consumers formulate different levels of perceived product quality regarding country of origin. Consumer with higher level of knowledge regarding country of origin tend to show weak perceptions towards the quality. As perception formation is a volatile and dynamic aspect of the consumer which can undergo changes with passing time, it is suggested to the marketers to keep track of the country of origin labelling and its perceptions on perceived product quality and make enhanced efforts to lend the attention of consumers towards country of origin and its link with product quality.

Subsequently, in the study the consumer knowledge moderates the relationship between price and perceived product quality. The results depict that consumer knowledge does not hold the moderating impact on the link between price and perceived product quality. The lack of moderating effect symbolizes that Pakistani consumers with changing consumer knowledge does not show any considerable difference in the formation of perceived product quality due to price. In other words, the level of knowledge the consumer possess the perceptions of quality will not be stimulated. The results are contrary to the findings of (Veale & Quester, 2009; Rao & Monroe, 1988). The following hypothesis of the study

specifies that consumer knowledge acts as a moderator between nutritional label and perceived product quality. The absence of the moderating impact exhibits that with variable levels of consumer knowledge does not result into any significant variance in the manner that product quality perceptions are being formed due to the presence of nutritional label. The results could also be explained that, taking into consideration that perceived product quality is impacted by nutritional label and it is important extrinsic cue, even though it tends to behave similarly with the fluctuating levels of consumer knowledge.

Afterwards consumer knowledge was seen not to hold any moderating impact on the respective relationship between precautionary label and perceived product quality. The non-appearance of the moderating role impact of consumer knowledge designates that varying levels of consumer knowledge does not lead to any momentous changes in the level of perceived product quality. This finding clearly indicates that marketers do not need to consider the knowledge aspect of the consumer regarding precautionary label much while formulating strategies for food packages. However, in yet to come time they need to remain watchful and vigilant about changing aspects of consumer behaviour. The last hypothesis of the study states that consumer knowledge moderates the linkage between Halal logo and perceived product quality. The lack of the moderating role of consumer knowledge signifies that the variation in the overall knowledge of the consumers of Pakistan do not lead to any significant change in the overall quality perceptions of the consumer. Although, the Halal logo has been accepted as an extrinsic cue in Pakistani consumer market but the relationship is not moderated by the variable of consumer knowledge.

5.3 Implications of the Study

The impact of food packaging cues on the perceived product quality is a vital marketing issue. The food packaging cues serve as quality signals for the consumers. The food packaging cues are a dependable source of marketing communication. The consumers perceive the quality information by looking at the cues available on the packages of products.

5.3.1 Theoretical Contributions

The prior consumer behaviour studies focused mainly on the heuristic perspective, however few studies focused specifically on the explicit food packaging cues. It has been proposed by Argo and White (2012) that the consumer behaviour studies focusing on the food packaging cues and their impact on quality perceptions is still to catch up. Yu *et al.* (2015) suggests that studies regarding the product quality perceptions needs to be carried out in developing countries like Pakistan. Based on the research upshots, it is confirmed that Pakistani consumers are expressively influenced by brand name, price, precautionary label and Halal logo and consider them as the quality indicating cues. These results are in line with the studies of (McKinnon *et al.*, 2014; Veale & Quester, 2009; Moorman, 2001 etc). Moving on further, the perceptions of the consumers regarding food packaging cues has not been addressed taking a comprehensive set of cues in a holistic view which is a theoretical gap this study fills up.

Considering the concept of 4 P's in marketing, this study merges the packaging as well as promotion. In the consumer market of Pakistan, more focus is laid on promotion through advertising and sales. However, there is minimal emphasis on packaging. This study focuses on promotion through the packaging which not only adds to the literature but provides empirical evidence in context of the consumer market of Pakistan. The emerging

consumer markets are quite far behind the nations which have progressed and are termed as developing nations. Conducting a study based on perceived product quality and food packaging cues in a developing consumer market contributes to the scarce literature pertaining perceived product quality and extrinsic cues.

From the view point of theoretical contribution, this research posits a wide-ranging model for comprehending the quality perceptions of the consumers based food packaging cues because of inconsistent findings in the literature among the relationships of variables and perceived product quality. The previous studies have been conducted mainly by captivating country of origin, price and brand name as extrinsic cues mainly. The significant contribution of this study is to use the combination of nutritional label, precautionary label and Halal logo in combination with country of origin and price including the moderating effect of consumer knowledge.

The past studies for instance Alba & Hutchinson (2000) and Kim *et al.* (2001) have majorly shown reliance on both extrinsic and intrinsic cues, however the ability and strength of extrinsic cues alone have not been investigated specifically in a developing market. Additionally the moderating role of consumer knowledge is previously being established by Alba and Hutchinson (2000), however the inconsistencies still remained (Veale and Quester, 2009). Although the empirical evidence is certain extrinsic cues for example brand name, country of origin and price exist in literature yet their effect in combination with other extrinsic cues still remains a gap in literature. Additionally, this study provides noteworthy insights into the construct of consumer knowledge in terms of quantification as well as its potential influence on the perceived product quality (pre-trial). The results of this study provides the managers with a vital information for developing the effective

marketing strategies as well as in proper allocation of resources for upholding the packaging cues which are more valuable in minds of consumers.

This study has employed signalling theory for understanding the concept in depth. This theory has been used in various studies in other disciplines including finance and marketing. Signalling theory in this study is used in order to understanding that hoe the consumer perceive the quality of the product when they are exposed to external signals. Signal is a cue which conveys the information regarding the product quality which is unobservable. Signalling theory is fit for this study as the extrinsic cues which are present on the food packages convey an information regarding the quality of the product which is not readily available for the consumer to experience.

The proposition of the theory is that one party communicates the signals regarding quality of the product to the other party which is less informed hence it decreases the information asymmetry. The anticipated outcome of the theory is that informational gap among the concerned parties is reduced which makes them choose good quality products. In the context of this study, the product quality perceptions of the consumers is formed when they look at the extrinsic cues available on the food packages. The market of packaged food products is oriented towards the consumers which gives it inherent challenges of disseminating proper information. Current trend of the usage of packaged products makes it difficult for the consumers to assess the intrinsic attributes. This study leverages the concept of signalling theory in order to develop an understating that how the product quality perception formation can be mitigated by adequate signalling via food packaging cues.

The framework used in the theory contains a full array of extrinsic cues which provide the foundation for perceived product quality through food packaging cues. The empirical outcomes of the paper conclude that food packaging cues are viable signals for communicating regarding the quality of the product. The information conveyed through these cues forms the product quality perceptions. The product quality is specifically essential for the marketers because different companies offer similar kind of products. In order to stay ahead, the companies try to form best perceptions regarding them. Applying signalling theory to the framework of this study gives robust theoretical basis in explaining how the perceived product quality is effected by food packaging cues. Another theoretical contribution of this study is that is that it contributes to prevailing literature in terms of signalling theory by authenticating distinct extrinsic cues (brand name, country of origin, price, nutritional label, precautionary label and Halal logo) as signals of quality. Taking into consideration the intricate challenges of the product packaging, food packaging cues need to be enhanced more in order to achieve higher quality perceptions.

5.3.2 Methodological Contribution

Along with theoretical contributions, this study has made few methodological contributions as well. Firstly, this study employs rigorous multi stage sampling. Mall intercept method is considered to be weak sampling technique. Nevertheless, this study was a footstep ahead in considering very little detail in terms of gate sampling, day and time sampling. This study will anticipate the upcoming researchers to achieve data from the mall intercept technique.

Secondly, although the reliable items of measures were adopted/adapted from various sources were taken but the studies were conducted in different contexts. In such circumstances, it becomes imperious to establish to validity and reliability. This study has

comprehensively done various statistical calculations in order to establish the validity and reliability in Pakistani consumer market. This research now offers, a valid and reliable instrument for Pakistani as well as global researchers who are enthusiastic to probe into the product quality perceptions formed via food packaging cues.

5.3.3 Managerial Implications

The field of marketing and consumer behavior is closely linked to consumer quality perceptions regarding the product. Different countries and cultures exhibit unique patterns of formation of quality perceptions and purchase decision making. This study in this particular regard establishes that food packaging cues considerably impact the perceived product quality of the packaged food in Pakistan. Perceived product quality is an important issue in the development and implementation of marketing strategies aimed at brand image building and increasing market share. In Pakistani food scenario, the packaged foods are witnessed to be having heightened sales and extraordinary growth. It would be beneficial for the practitioners to recognize this consumer segment. The Pakistani consumers demand a higher quality packaged food product with best value for money and they make quality assessments of the products by extrinsic cues. The aim of the marketing and consumer research is to satisfy the consumers in short and long run so it would be advantageous to study perceived product quality by the consumers.

The consumers in purchase environment pass through variety of behavioural and psychological states. It is generally observed in the market that consumers behave differently in actual purchase situation as compared to their previous conceptions. Generally for the packaged foods, the imagery and labels on the package cast a significant impact on the quality assessments of the product. It is matter of serious concern for the marketers to comprehend the chances of purchase after being influenced by the food

packaging cues and strategize in an according manner. This study gives an empirical evidence that Pakistani consumers exhibit a favourable attitude towards food packaging cues and have a synchronization with the quality perception formation.

To build long-term relationships with consumers, marketers must ensure that the perceived quality of their products among consumers is high and remains so. Thus, when developing marketing strategies, marketers have to take into consideration perceived quality and every factor associated with the construct. Knowledge of how service quality is related to satisfaction, purchase intentions and product involvement might enable marketing managers to develop Perceived product quality is an important issue in the development and implementation of marketing strategies aimed at brand image building and increasing market share. To build long-term relationships with consumers, marketers must ensure that the perceived quality of their products among consumers is high and remains so.

Thus, when developing marketing strategies, marketers have to take into consideration perceived quality and every factor associated with the construct. Knowledge of how service quality is related to satisfaction, purchase intentions and product involvement might enable marketing managers to develop Perceived product quality could be also used by marketers as a segmentation criterion in order to identify homogeneous groups of consumers. The basis selected for segmenting a market is a key factor in providing a firm with a strategic advantage over its competitors. The results of the study indicate that consumers with different perceptions of quality (low, medium, high) differ also in their level of satisfaction, product involvement and purchase intentions. Thus, the most profitable, reachable segments could be targeted in order to achieve marketing goals and respond to competition challenges. Moreover, perceived product quality could assist managers in positioning their products in the consumers' perception map and differentiate them from competitor brands.

The empirical analysis of the study confirms the relationship among the constructs together with the moderating effects. These relationships have been confirmed or disconfirmed statistically. From the standpoint of practitioners, this study provides a significant contribution in the form of understanding the mind set of consumers in a shopping situation. It may also assist the marketers to devise the marketing strategies to create favourable product perceptions and long term relations with the consumers. Marketing is a stream which has advanced from commercials to every single aspect of the product including the packaging of the product. The target of the cues embedded in the form of labelling on food packages is linked to the minds and perceptions of consumers. This study confirms that the Pakistani consumers are significantly been influenced by packaging cues. The results of the study entail that marketing managers should embed the cues intelligently keeping clearly in mind that they are considered as the quality signals of the enclosed product by the consumer.

The marketers are suggested to avoid any kind of deceptive cues on product labelling. In Pakistani food market, the packaged food is witnessed to exhibit a fast growth due to drifting lifestyles. It would be advantageous for marketers to recognize this segment, along with other consumer segments that do not use packaged food products. As marketing values every step that can keep customers delighted and retained, an ability to meet consumers' aforesaid demand can put them in real advantageous position in the short as well as in the long run.

This study assess the influence of food packaging cues on perceived product quality. This provides vivid notion of the consumer orientation and is helpful for the practitioners to adopt the best strategies in embedding the strong packaging cues. The analysis of the study can assist the marketers to utilize their resources effectively on the cues which are

considered to be more important from the viewpoint of consumers. Third, a good comprehensive study can assist the practitioners to devise such marketing plans which can attract more potential customers.

It is vital for the managers to comprehend the corresponding impact of the extrinsic cues on the product quality assessments of the consumer. The understanding of the quality perceptions would direct the marketing efforts towards augmentation of the attributes which inspire the consumer opinion regarding quality the most. Taking into view that there very few genuine experts in maximum number of consumer markets, the vitality of extrinsic cues cannot be underestimated as they are used by the consumers for consistent reliance on them for quality perceptions. The marketers are suggested not to rely on the knowledge level of consumers rather ensure to develop the packaging and labelling in a manner which facilitates the consumers in clearly perceiving the quality of the product.

5.4 Limitations

Even though the study has made some clear contribution on theoretical, methodological as well as managerial levels, still no study is without limitations. First, the research was conducted by considering the packaged food product sector in Pakistan, however the results cannot be generalized to whole food sector or other product categories of Pakistan. Secondly, the sampling was done takin into consideration Sudman (1980), and Singhapakdi *et al.* (1999) was limited to the cities with higher level of awareness and greater ratio of urbanized population. Urbanization, population compositions, mall popularity etc were taken into account, moreover by taking into consideration some more cities and semi-urban areas would have yielded more interesting findings.

5.5 Recommendations for Future Research

Further studies related to extrinsic cues and perceived product quality can broaden their scope to other product categories for instance cosmetics, technology products etc. Making cross product comparisons for determining the consumer behaviour could also be a major step. The scope of the study could be broadened in future by including more cities as well as rural and semi urban areas of Pakistan. Furthermore, it is proposed that future studies should take into consideration more demographic aspects of respondents like ethnicity, religion and employment status in order to comprehend that how different groups of consumer perceived quality in response to various extrinsic cues.

Furthermore, as Pakistan is slowly and steadily moving towards better economic conditions and towards the changing lifestyle, the need to study of consumers' quality perceptions will ascend as a noteworthy concern for the marketers. Hence, in attempt to create a strong base of knowledge, it would be useful that the future researchers deeply explore the perceptions of consumers in response to the cues given by the products through qualitative or mixed method studies. Further studies including in depth interviews with marketers and marketing academicians would further strengthen this area of research. The upcoming researchers could use new set of extrinsic cues of mix of extrinsic or intrinsic cues for interesting insights.

5.6 Conclusion

The overall research findings can be concluded as, extrinsic cues overall possess a significant and positive impact on perceived product quality. The food packaging cue of brand name showed a significantly positive impact on perceived product quality. Afterwards, the country of origin was taken as an extrinsic cue whose result was insignificant on perceived product quality. The next extrinsic cue which is tested in the

study is price which exhibited a positively significant relation with perceived product quality. Furthermore, nutritional label was another cue which was employed in the theoretical framework of the study. The extrinsic cue of nutritional label also impacted perceived product quality significantly. The other two extrinsic cues which were put to analysis were precautionary label and Halal logo. Both of them showed considerable impact on the perceived product quality. Taking into account the outcomes, the marketers are left with a single choice to take into consideration the packaging and labelling as noticeable extrinsic cues.

Consumer knowledge is a moderator variable being employed in the study, who's overall impact came less strong. However, consumer knowledge acted as moderator in the relationships of brand name and country of origin with perceived product quality. As the wave of using packaged food products is recent in Pakistan hence the impact of knowledge came out to be comparatively weak. The initial framework conceptualised for the study was further strengthened by signalling theory. The extrinsic cues whose effect on perceived product quality was the matter of interest for the researcher came out to be effective indictors of quality (pre-trial). The findings confirm that model was in line with the underlying theory. As a concluding remark, a need exists on the edge of marketers of Pakistan to recognise these extrinsic cues on the packaged food product as key drivers for quality perception.

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Appendix (A): Research Questionnaire (English)

Universiti Utara Malaysia, 06010 UUM Sintok, Kedah Darul Aman, Malaysia

Dear Mr /Mrs /Ms,

ACADEMIC RESEARCH QUESTIONNAIRE

I am the PhD candidate at the above mentioned university and I am currently working on my PhD thesis title "The impact of extrinsic food packaging cues on perceived product quality in Pakistani consumer market".

Thank you in advance for your valuable time in filling this questionnaire. Please be assured that your responses will only be used for academic purpose. Hence, your identity will never be known throughout any part of the research process.

Thank you very much in anticipation of your responses.

Sincerely

PhD Candidate Anam Javeed

Email: anam_javeed@oyagsb.uum.edu.my

Your kind cooperation and participation is highly appreciated in filling out the brief questionnaire about perceive product quality.

Please indicate your responses to the following statements **by ticking (/) for the best answer that reflects your perceptions regarding the food packaging cues** in one of the boxes which rates your level of agreement from number 1 to 5. Number 1 means strongly disagree and number 5 means strongly agree.

Strongly disagree (1)	Disagree (2)	Uncertain (3)	Agree (4)	Strongly agree (5)

SECTION ONE: BRAND NAME

No	Survey items	1	2	3	4	5
1	Popular brand name can describe the quality of the product.					
2	The branded food product makes me want to buy it.					
3	I enjoy eating branded foods.					
4	The branded food product has an acceptable standard of quality.					
5	The branded food product has a consistent quality.					
6	The branded food consumption makes me feel accepted in peers.					
7	The branded food gives me social approval.					
8	The brand label on the food package guarantees quality.					
9	Even though, the branded foods are a little expensive but they are better in quality.					

SECTION TWO: COUNTRY OF ORIGIN

No	Survey items	1	2	3	4	5
1	Country of origin promotes the positive image of the source country.					
2	I am concerned about the country of origin of the food product.					
3	When purchasing the food product, I believe that COO will determine sophistication and quality					
4	To make sure what I buy is high in quality, I seek for the source country label					

SECTION THREE: PRICE

No	Survey items	1	2	3	4	5
1	Higher quality is the consequence of higher price.					
2	Packaged food items have an acceptable sale price.					
3	Packaged food items offer value for money.					
4	Packaged food items have a good quality for the price paid.					
5	I check the price while shopping for the packaged food.					
6	Regardless of other labels, price is very important quality indicator for me.					
7	Price labels effect my purchase decision					
8	I am concerned about low price but I am equally concerned about the quality,					
9	The old saying "you get what you pay for" is generally true.					

SECTION FOUR: NUTRITIONAL LABEL

No	Survey items	1	2	3	4	5
1	Comprehensive nutritional information helps me to decide which food pack to buy.					
2	I read the nutritional label when I buy food package.					

3	I use nutritional label to choose and compare the packaged food items.					
4	Would you sacrifice health for taste					
5	Nutritional label provides awareness about food product quality.					
6	I believe nutritional label leads to quality food choice.					
7	The food product with nutritional label is safe and high in quality.					

SECTION FIVE: PRECAUTIONARY LABEL

No	Survey items	1	2	3	4	5
1	Precautionary Label is the source of information regarding potential allergens.					
2	I read the Precautionary Label when I buy food package.					
3	Product with Precautionary Label with high risk of inducing an allergic reaction is higher in quality.					
4	Product with Precautionary Label with low or no risk of inducing any allergic reaction is higher in quality.					
5	There is an increased use of Precautionary Label in packaged food industry.					
6	Presence of Precautionary Label can improve the quality perceptions of the consumer regarding food					
7	Precautionary Label assists in making healthier and safer food choices					
8	I seek Precautionary Label very carefully on food packaging.					
9	I have strong interest in Precautionary Label as it is related to my health.					
10	Precautionary Label guarantees quality of food.					

SECTION SIX: HALAL LOGO

No	Survey item	1	2	3	4	5
1	Halal logo is important for me when purchasing packaged food items.					
2	The food products which have Halal logo on it have a better quality then competing products.					
3	The food products with Halal logo are in compliance with Shariah.					
4	Halal symbolized foods are reliable.					
5	Quality, safety and compliance with Islamic laws are the ultimate consequences of foods with Halal logo.					
5	I only prefer to buy products with Halal logo on it.					
7	I will choose Halal certified food product even at a higher price.					
8	Halal consumption makes a good impression of me in peers					
9	The packaged foods available in market with Halal logo are high in quality					
10	Halal packaged food has a better taste then conventional foods					
11	Buying Halal symbolized food gives me inner satisfaction and peace					

SECTION SEVEN: CONSUMER KNOWLEDGE

No	Survey item	1	2	3	4	5

1	I feel confident about my knowledge of packaged food products.					
2	I feel I know how to judge the quality of packaged food products.					
3	I do not feel very knowledgeable about packaged food items.					
4	Among my circle of friends, I'm one of the 'experts' on packaged food products.					
5	Knowledgeable consumers use packaging cues for perceiving the quality.					
6	Compared to most buyers, I know less about packaged food products.					
7	I know most of the packaged food items around in shops.					
8	When it comes to packaged foods products, I really don't know a lot.					
9	Compared to most buyers, I know more about packaged products.					
10	I can tell if any packaged food product is worth the price or not.					

SECTION EIGHT: QUALITY PERCEPTION

No	Survey items	1	2	3	4	5
1	The nutrition information on food labels is useful to me					
2	I feel confident that I know how to use food labels to choose a healthy diet					
3	I read food labels because good health is important to me					
4	Reading labels makes it easier to choose foods					
5	Sometimes I try new foods because of the information on the food label					
6	Using food labels to choose foods is better than just relying on my own knowledge about what is in them					
7	The food item with important food packaging informational cues is considered to be in superior in quality.					
8	Positive product perception provides reason to the consumer to buy.					
9	Perceived quality helps consumer to differentiate between the competing brands.					

SECTION NINE: DEMOGRAPHIC PROFILE

1. AGE: (A) 18-25 (B) 26-33
(C) 34-41 (D) 41 and above

2. ACADEMIC QUALITFICATION:

(A) High school (B) Bachelors
(C) Masters (D) Doctorate

3. INCOME LEVEL:

(A)15000-20,000 (B)20,000-25,000
(C)25,000-30,000 (D)30,000-above

APPENDIX (B): Correlations

Correlations									
		PQ	BN	COO	PR	NL	PL	HL	CK
PQ	Pearson Correlation	1	.420**	.379**	.506**	.494**	.586**	.590**	.130**
	Sig. (2-tailed)		.000	.000	.000	.000	.000	.000	.005
	N	478	478	478	478	478	478	478	478
BN	Pearson Correlation	.420**	1	.332**	.416**	.431**	.464**	.408**	.069
	Sig. (2-tailed)	.000		.000	.000	.000	.000	.000	.132
	N	478	478	478	478	478	478	478	478
COO	Pearson Correlation	.379**	.332**	1	.431**	.391**	.455**	.517**	.086
	Sig. (2-tailed)	.000	.000		.000	.000	.000	.000	.059
	N	478	478	478	478	478	478	478	478
PR	Pearson Correlation	.506**	.416**	.431**	1	.561**	.581**	.550**	.091*
	Sig. (2-tailed)	.000	.000	.000		.000	.000	.000	.047
	N	478	478	478	478	478	478	478	478

Correlations									
		PQ	BN	COO	PR	NL	PL	HL	CK
NL	Pearson Correlation	.494**	.431**	.391**	.561**	1	.641**	.504**	.083
	Sig. (2-tailed)	.000	.000	.000	.000		.000	.000	.071
	N	478	478	478	478	478	478	478	478
PL	Pearson Correlation	.586**	.464**	.455**	.581**	.641**	1	.637**	.131**
	Sig. (2-tailed)	.000	.000	.000	.000	.000		.000	.004
	N	478	478	478	478	478	478	478	478
HL	Pearson Correlation	.590**	.408**	.517**	.550**	.504**	.637**	1	.148**
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000		.001
	N	478	478	478	478	478	478	478	478
CK	Pearson Correlation	.130**	.069	.086	.091*	.083	.131**	.148**	1
	Sig. (2-tailed)	.005	.132	.059	.047	.071	.004	.001	
	N	478	478	478	478	478	478	478	478
** Correlation is significant at the 0.01 level (2-tailed).									
*Correlation is significant at the 0.05 level (2-tailed).									

Appendix(C): Total Variance Explained

Total Variance Explained							
	Component	Initial Eigen values			Extraction Sums of Squared Loadings		
		Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
Raw	1	17.463	25.542	25.542	17.463	25.542	25.542
	2	5.687	8.318	33.860			
	3	3.009	4.402	38.261			
	4	2.811	4.111	42.373			
	5	2.530	3.700	46.073			
	6	2.444	3.575	49.648			
	7	2.059	3.012	52.660			
	8	1.646	2.408	55.068			
	9	1.589	2.325	57.392			
	10	1.420	2.077	59.469			
	11	1.293	1.891	61.361			
	12	1.266	1.852	63.213			
	13	1.149	1.680	64.893			
	14	1.072	1.568	66.461			
	15	1.038	1.518	67.979			
	16	1.002	1.465	69.444			
	17	.965	1.411	70.855			
	18	.880	1.286	72.142			
	19	.871	1.274	73.415			
	20	.837	1.224	74.639			
	21	.769	1.124	75.764			

	22	.737	1.078	76.842			
	23	.714	1.044	77.886			
	24	.660	.966	78.851			
	25	.652	.954	79.806			
	26	.641	.938	80.744			
	27	.581	.850	81.594			
	28	.561	.821	82.414			
	29	.549	.804	83.218			
	30	.541	.792	84.010			
	31	.513	.751	84.761			
	32	.504	.737	85.498			
	33	.488	.714	86.213			
	34	.476	.697	86.910			
	35	.462	.675	87.585			
	36	.444	.650	88.235			
	37	.434	.635	88.870			
	38	.424	.620	89.490			
	39	.399	.583	90.073			
	40	.388	.567	90.640			
	41	.359	.525	91.165			
	42	.356	.521	91.685			
	43	.354	.518	92.203			
	44	.337	.493	92.696			
	45	.329	.481	93.176			
	46	.324	.473	93.650			
	47	.304	.445	94.094			
	48	.294	.429	94.524			
	49	.282	.413	94.937			
	50	.270	.395	95.332			
	51	.243	.355	95.688			

	52	.241	.353	96.041			
	53	.231	.338	96.379			
	54	.225	.329	96.708			
	55	.218	.318	97.027			
	56	.215	.315	97.342			
	57	.205	.300	97.642			
	58	.201	.294	97.935			
	59	.193	.282	98.217			
	60	.190	.278	98.495			
	61	.174	.254	98.749			
	62	.171	.250	98.998			
	63	.153	.224	99.223			
	64	.150	.220	99.442			
	65	.140	.204	99.647			
	66	.130	.191	99.837			
	67	.111	.163	100.000			
	68	1.010E-013	1.015E-013	100.000			
	69	1.003E-013	1.005E-013	100.000			
	70	1.003E-013	1.004E-013	100.000			
	71	1.001E-013	1.001E-013	100.000			
	72	-1.000E-013	-1.000E-013	100.000			
	73	-1.002E-013	-1.002E-013	100.000			
	74	-1.004E-013	-1.006E-013	100.000			

	75	-1.013E-013	-1.019E-013	100.000			
	76	-1.015E-013	-1.022E-013	100.000			
	77	-1.045E-013	-1.066E-013	100.000			
Rescaled	1	17.463	25.542	25.542	20.512	26.639	26.639
	2	5.687	8.318	33.860			
	3	3.009	4.402	38.261			
	4	2.811	4.111	42.373			
	5	2.530	3.700	46.073			
	6	2.444	3.575	49.648			
	7	2.059	3.012	52.660			
	8	1.646	2.408	55.068			
	9	1.589	2.325	57.392			
	10	1.420	2.077	59.469			
	11	1.293	1.891	61.361			
	12	1.266	1.852	63.213			
	13	1.149	1.680	64.893			
	14	1.072	1.568	66.461			
	15	1.038	1.518	67.979			
	16	1.002	1.465	69.444			
	17	.965	1.411	70.855			
	18	.880	1.286	72.142			
	19	.871	1.274	73.415			
	20	.837	1.224	74.639			
	21	.769	1.124	75.764			
	22	.737	1.078	76.842			
	23	.714	1.044	77.886			
	24	.660	.966	78.851			

	25	.652	.954	79.806			
	26	.641	.938	80.744			
	27	.581	.850	81.594			
	28	.561	.821	82.414			
	29	.549	.804	83.218			
	30	.541	.792	84.010			
	31	.513	.751	84.761			
	32	.504	.737	85.498			
	33	.488	.714	86.213			
	34	.476	.697	86.910			
	35	.462	.675	87.585			
	36	.444	.650	88.235			
	37	.434	.635	88.870			
	38	.424	.620	89.490			
	39	.399	.583	90.073			
	40	.388	.567	90.640			
	41	.359	.525	91.165			
	42	.356	.521	91.685			
	43	.354	.518	92.203			
	44	.337	.493	92.696			
	45	.329	.481	93.176			
	46	.324	.473	93.650			
	47	.304	.445	94.094			
	48	.294	.429	94.524			
	49	.282	.413	94.937			
	50	.270	.395	95.332			
	51	.243	.355	95.688			
	52	.241	.353	96.041			
	53	.231	.338	96.379			
	54	.225	.329	96.708			

	55	.218	.318	97.027			
	56	.215	.315	97.342			
	57	.205	.300	97.642			
	58	.201	.294	97.935			
	59	.193	.282	98.217			
	60	.190	.278	98.495			
	61	.174	.254	98.749			
	62	.171	.250	98.998			
	63	.153	.224	99.223			
	64	.150	.220	99.442			
	65	.140	.204	99.647			
	66	.130	.191	99.837			
	67	.111	.163	100.000			
	68	1.010E-013	1.015E-013	100.000			
	69	1.003E-013	1.005E-013	100.000			
	70	1.003E-013	1.004E-013	100.000			
	71	1.001E-013	1.001E-013	100.000			
	72	-1.000E-013	-1.000E-013	100.000			
	73	-1.002E-013	-1.002E-013	100.000			
	74	-1.004E-013	-1.006E-013	100.000			
	75	-1.013E-013	-1.019E-013	100.000			

	76	-1.015E-013	-1.022E-013	100.000			
	77	-1.045E-013	-1.066E-013	100.000			
Extraction Method: Principal Component Analysis.							
a. When analyzing a covariance matrix, the initial eigenvalues are the same across the raw and rescaled solution.							

Appendix (D): Coefficients

Coefficients							
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	.486	.196		2.485	.013		
BN	.128	.047	.109	2.719	.007	.725	1.380
COO	.004	.033	.005	.115	.909	.684	1.462
PR	.125	.048	.119	2.590	.010	.547	1.828
NL	.093	.048	.091	1.923	.055	.521	1.920
PL	.229	.054	.220	4.208	.000	.423	2.362
HL	.310	.052	.291	6.027	.000	.496	2.014
a. Dependent Variable: PQ							

Appendix (E): Collinearity Diagnostics

Collinearity Diagnostics										
Model	Dimension	Eigenvalue	Condition Index	Variance Proportions						
				(Constant)	BN	COO	PR	NL	PL	HL
1	1	6.911	1.000	.00	.00	.00	.00	.00	.00	.00
	2	.030	15.286	.03	.03	.88	.01	.02	.00	.00
	3	.018	19.511	.24	.17	.01	.02	.28	.06	.00
	4	.013	23.338	.00	.14	.07	.17	.41	.02	.30
	5	.011	24.519	.00	.01	.01	.74	.00	.17	.20
	6	.010	26.797	.59	.57	.00	.05	.14	.07	.01
	7	.008	29.577	.14	.08	.02	.00	.14	.66	.49
a. Dependent Variable: PQ										

Appendix (F): Frequencies

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	285	59.6	59.6	59.6
	2	193	40.4	40.4	100.0
	Total	478	100.0	100.0	

Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	160	33.5	33.5	33.5
	2	167	34.9	34.9	68.4
	3	117	24.5	24.5	92.9
	4	34	7.1	7.1	100.0
	Total	478	100.0	100.0	

Acadmq

	Frequency	Percent	Valid Percent	Cumulative Percent
1	58	12.1	12.1	12.1
2	206	43.1	43.1	55.2
3	194	40.6	40.6	95.8
4	20	4.2	4.2	100.0
Total	478	100.0	100.0	

Appendix (G): Descriptive Statistics

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
BN	478	1.00	5.00	4.10396	.57469
COO	478	1.00	5.00	3.8666	.76058
PR	478	1.000	5.00	3.9979	.6455
NL	478	1.00	5.00	3.95636	.69091
PL	478	1.0	5.0	3.975	.6527
HL	478	1.000	5.00	4.0827	.63688
CK	478	1.3	5.0	4.106	.7077
PQ	478	1.000	5.00	4.0553	.6787
Valid N (listwise)	478				

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Javeed, M. A., Mokhtar, S. S. B. M., Bin Lebai Othman, I. (2018). Conceptualizing the Relation between Halal Logo, Perceived Product Quality and the Role of Consumer Knowledge. *Journal of Islamic Marketing*, 09 (4). **(Scopus, ISI)**

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